S

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1-2
3-HOLE
60#

DPM 700 VOL.II
TP 0341-00

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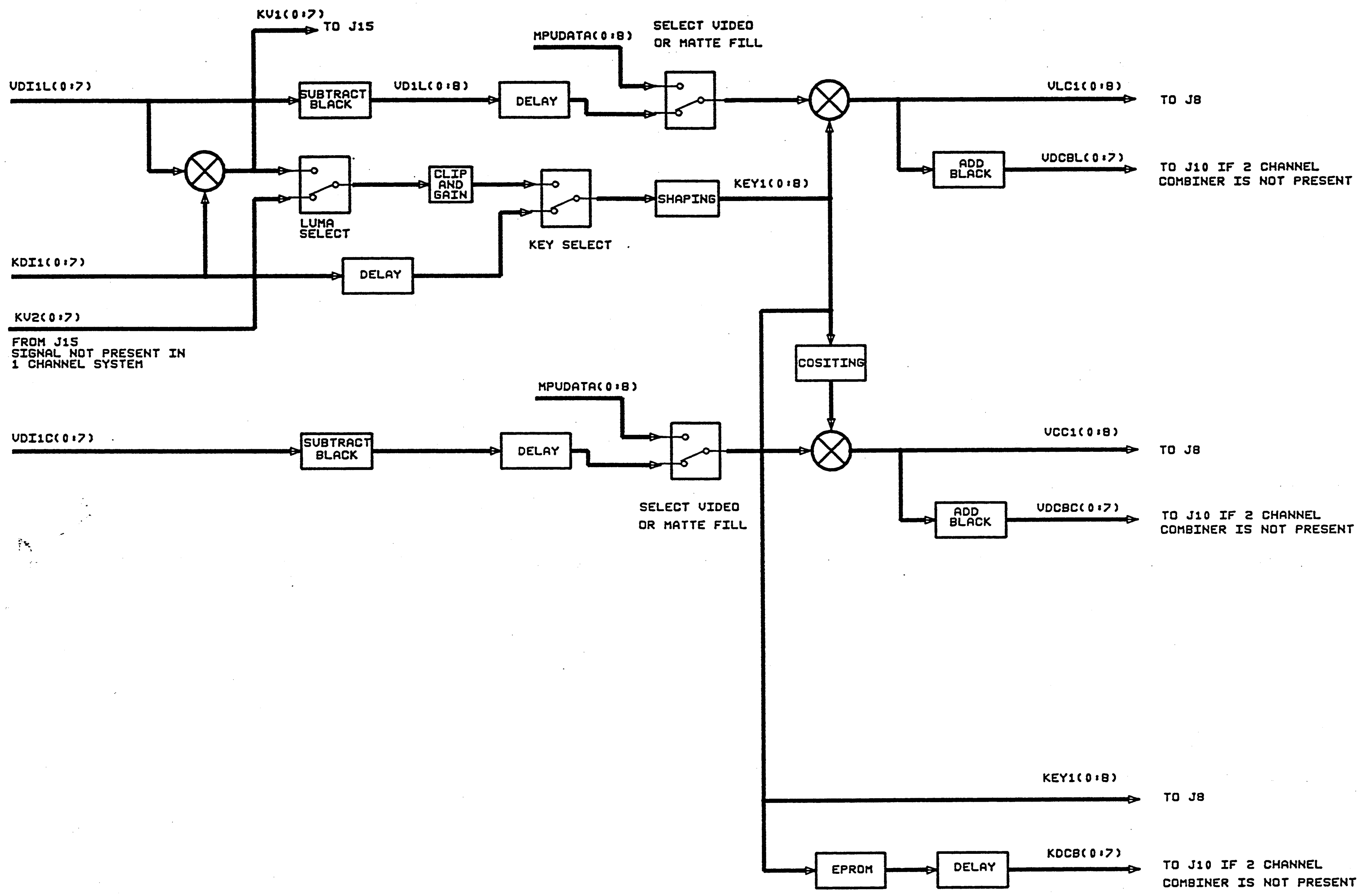
REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
A1	2152	PLUM	21NOV 1990	—	—		—

PILOT RUN RELEASE


KV1(0:7)
TO J15
MPUDATA(0:8)
SELECT VIDEO
OR MATTE FILL
VDI1L(0:7)
SUBTRACT BLACK
VD1L(0:8)
DELAY
VLC1(0:8)
TO J8
ADD BLACK
VDCBL(0:7)
TO J10 IF 2 CHANNEL
COMBINER IS NOT PRESENT
CLIP AND GAIN
SHAPING
KEY1(0:8)
LUMA SELECT
KEY SELECT
KDI1(0:7)
DELAY
KV2(0:7)
FROM J15
SIGNAL NOT PRESENT IN
1 CHANNEL SYSTEM
COSITING
MPUDATA(0:8)
VDI1C(0:7)
SUBTRACT BLACK
DELAY
VCC1(0:8)
TO J8
SELECT VIDEO
OR MATTE FILL
ADD BLACK
VDCBC(0:7)
TO J10 IF 2 CHANNEL
COMBINER IS NOT PRESENT
KEY1(0:8)
TO J8
EPROM
DELAY
KDCB(0:7)
TO J10 IF 2 CHANNEL
COMBINER IS NOT PRESENT

COMBINER CHANNEL 1

GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA
A TEKTRONIX COMPANY

BLOCK DIAGRAM
FRAME CONTROL
PROCESSOR

PVD
CADNETIX
DMP-100 064700
USED ON NEXT ASSY
APPLICATION
DISTRIBUTION

DRAWN KF/PLUM DATE 20NOV90
ENGINEER JB/JP/FL
CHECKED DATE
APPROVED DATE
PILOT RUN RLSE FL DATE 14FEB91
ENGRG RLSE DATE

SIZE D DRAWING NO. 00-064700-02 REV A1
SCALE: NONE
SHEET 1 OF 2

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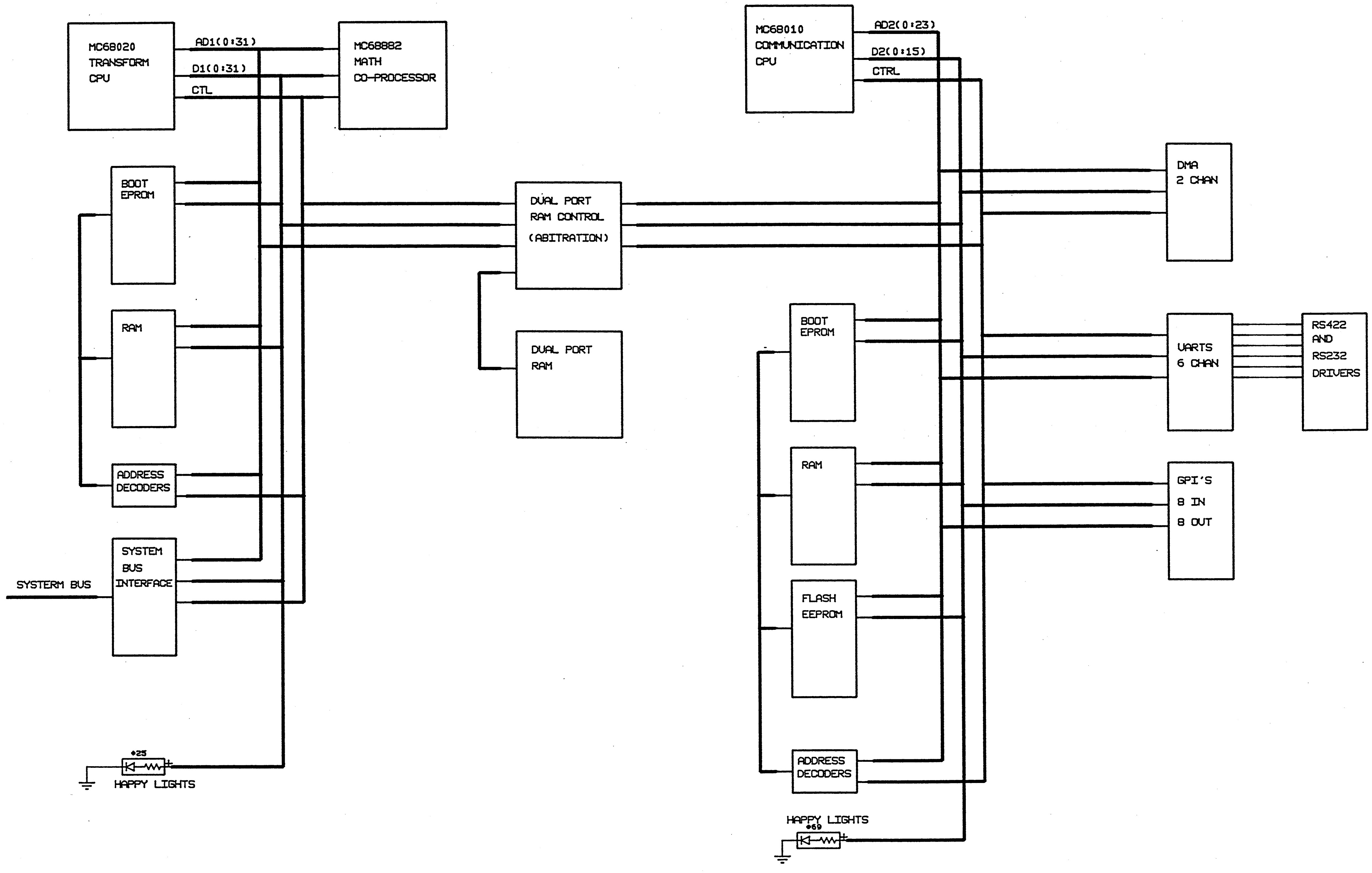
REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC

BLOCK DIAGRAM FOR CPU PORTION OF THE 64700 BHOARD


MC68020
TRANSFORM
CPU
AD1(0:31)
D1(0:31)
CTL
MC68882
MATH
CO-PROCESSOR
BOOT
EPROM
RAM
ADDRESS
DECODERS
SYSTEM
BUS
INTERFACE
SYSTERM BUS
+25
HAPPY LIGHTS
DUAL PORT
RAM CONTROL
(ABITRATION)
DUAL PORT
RAM
MC68010
COMMUNICATION
CPU
AD2(0:23)
D2(0:15)
CTRL
BOOT
EPROM
RAM
FLASH
EEPROM
ADDRESS
DECODERS
HAPPY LIGHTS
+69
DMA
2 CHAN
UARTS
6 CHAN
RS422
AND
RS232
DRIVERS
GPI'S
8 IN
8 OUT

CONTROL PROCESSOR

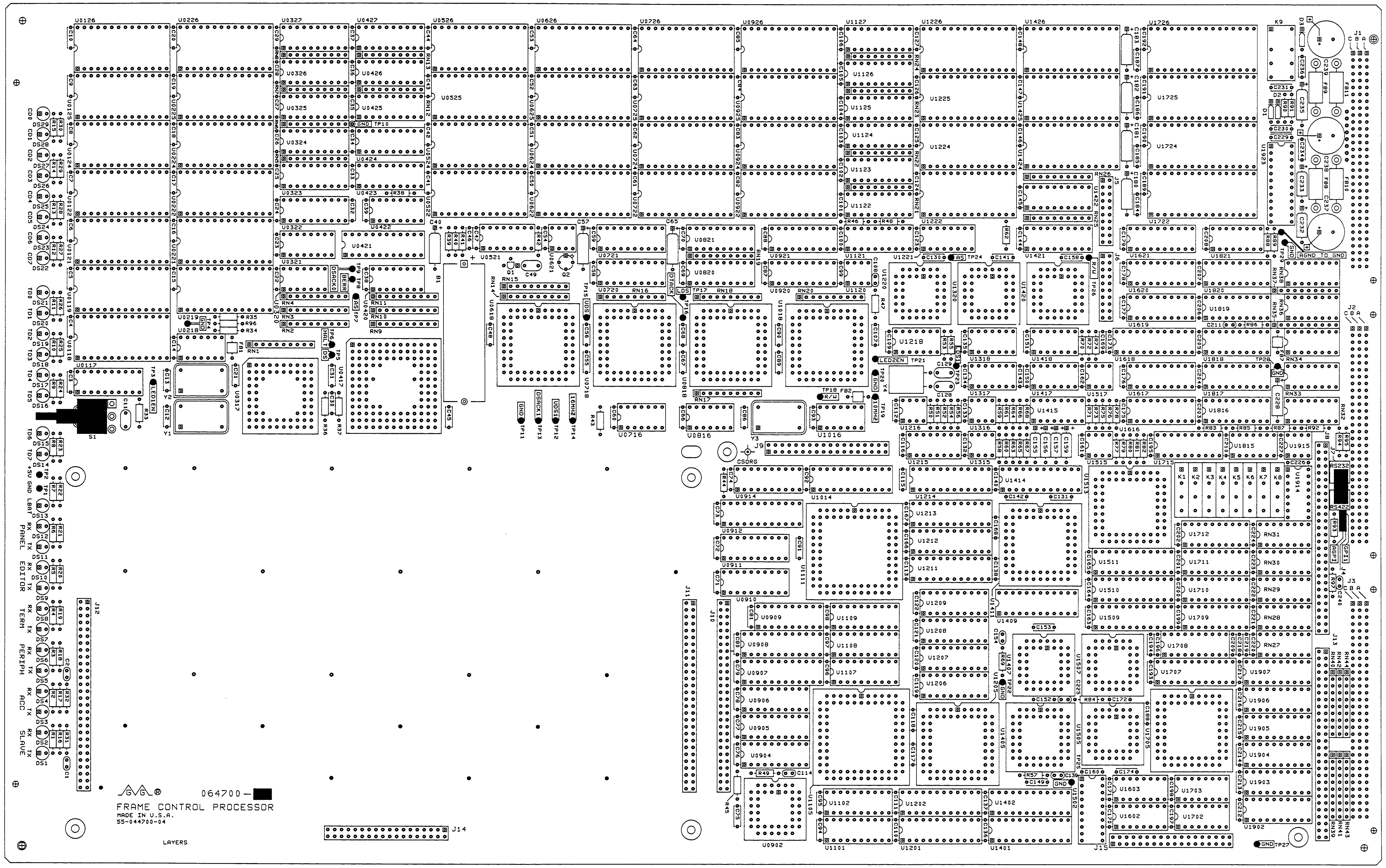
BLOCK DIAGRAM
FRAME CONTROL
PROCESSOR

SIZE D
DRAWING NO. 00-064700-02
REV A1
SCALE: NONE
SHEET 2 OF 2

SIZE	DWG NO.	REV	SH
D	07-064700-03	A1	1

REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
A1	Z423	EAD	JUL 10 1991	——	——		——
PILOT RUN RELEASE							


U0126
U0226
U0327
U0427
U0526
U0626
U0726
U0926
U1127
U1226
U1426
U1726
K9
J1
C B A
J2
J3
J9
J10
J11
J12
J13
J14
J15
S1
Y1
Y2
Y3
CSORG
AGND TO GND
PANEL
EDITOR
TERM
PERIPH
ACC
SLAVE
064700-
FRAME CONTROL PROCESSOR
MADE IN U.S.A.
55-044700-04
LAYERS

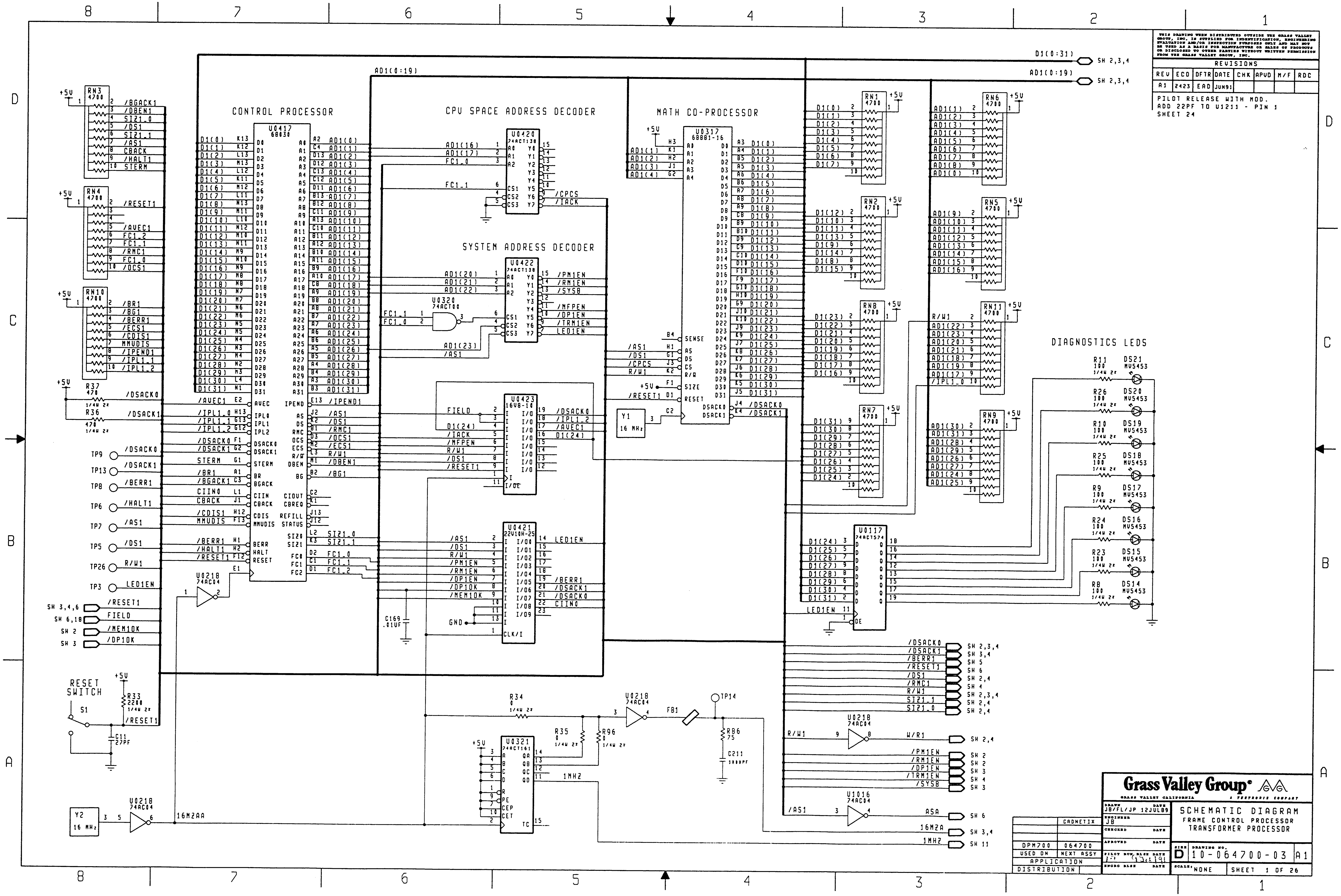
NOTES:

1. SCHEMATIC REFERENCE: D10-064700-03
2. DARKENED COMPONENTS INDICATES TEST POINTS.
3. REFER TO SCHEMATIC FOR CONNECTOR PIN OUT INFORMATION.

	CADNETIX
	064700
USED ON	NEXT ASSY
APPLICATION	
DISTRIBUTION	

GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA *A TEKTRONIX COMPANY*

DRAWN EAD	DATE 31MAY91	COMPONENT LOCATION FRAME CONTROL PROCESSOR
ENGINEER FL		
CHECKED	DATE	
APPROVED	DATE	SIZE D — DRAWING NO. 07-064700-03 — A1
PILOT RUN RLSE FL	DATE 11Jul91	
ENGRG RLSE	DATE	SCALE: NONE — SHEET 1 OF 1


CONTROL PROCESSOR
U0417
68030
CPU SPACE ADDRESS DECODER
U0420
74ACT138
SYSTEM ADDRESS DECODER
U0422
74ACT138
U0320
74ACT00
MATH CO-PROCESSOR
U0317
68881-16
U0423
16V8-10
U0421
22V10H-25
U0117
74ACT574
U0321
74ACT161
U0218
74AC04
U1016
74AC04
DIAGNOSTICS LEDS
DS21 DS20 DS19 DS18 DS17 DS16 DS15 DS14
MV5453
RN1 RN2 RN3 RN4 RN5 RN6 RN7 RN8 RN9 RN10 RN11
4700
D1(0:31)
AD1(0:19)
SH 2,3,4
/DSACK0
/DSACK1
/BERR1
/RESET1
/DS1
/RMC1
R/W1
SIZ1_0
SIZ1_1
/AS1
/CPCS
/IACK
/PM1EN
/RM1EN
/SYSB
/MFPEN
/DP1EN
/TRM1EN
LED1EN
FIELD
/MEM10K
/DP10K
RESET SWITCH
S1
R33 2200
C11 27PF
Y1 16 MHz
Y2 16 MHz
16M2AA
W/R1
ASA
16M2A
1MHZ
FB1
TP14
R86 75
C211
R34
R35
R96
C169 .01UF
GND
+5V
TP9 TP13 TP8 TP6 TP7 TP5 TP26 TP3
R37 470
R36 470
SH 3,4,6
SH 6,18
SH 2
SH 3
SH 11

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REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
A1	2423	EAD	JUN91				

PILOT RELEASE WITH MOD.
ADD 22PF TO U1211 - PIN 1
SHEET 24

Grass Valley Group®
GRASS VALLEY CALIFORNIA
A TEKTRONIX COMPANY

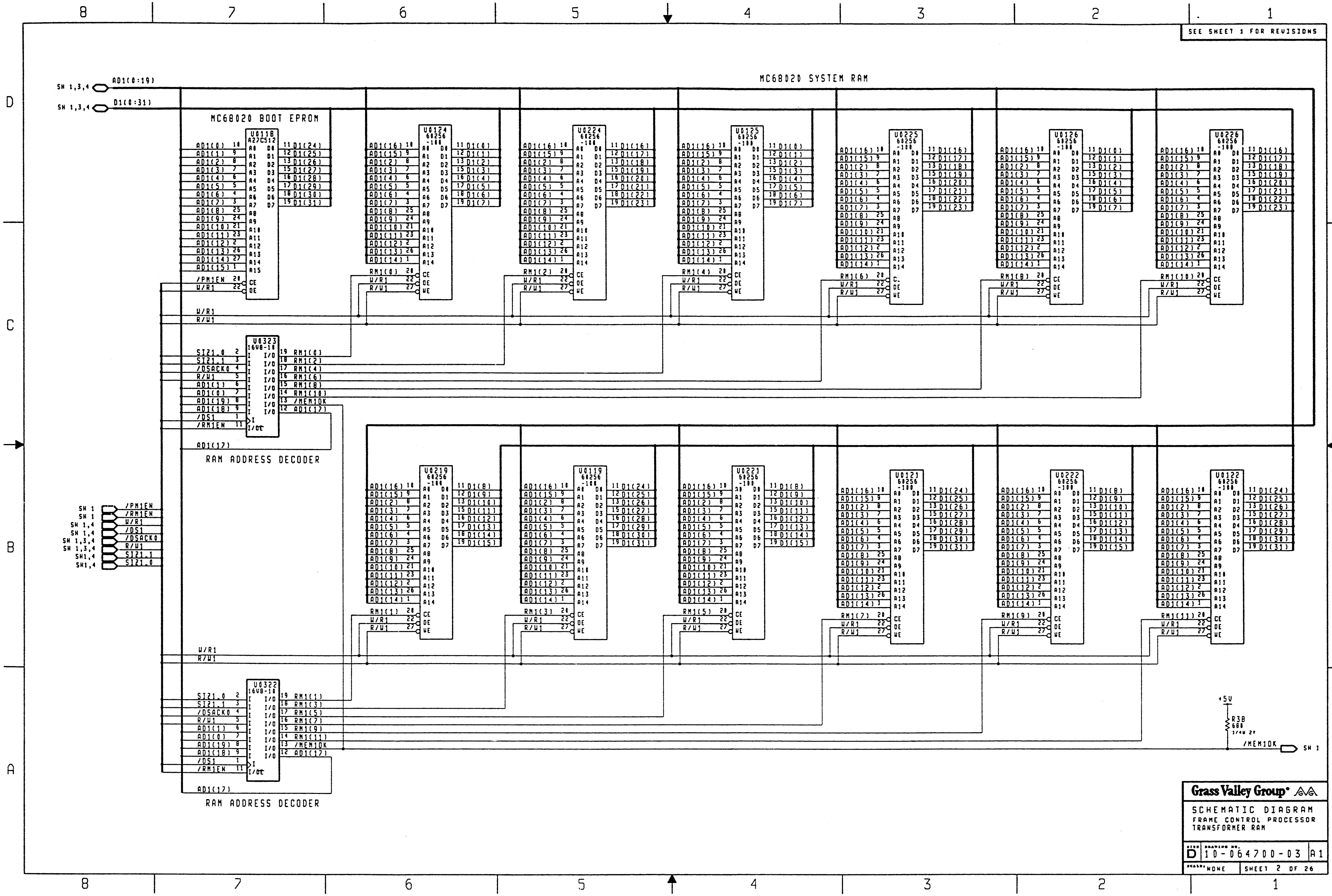
DRAWN JB/FL/JP DATE 12JUL89
ENGINEER JB
CHECKED DATE
APPROVED DATE
PILOT RUN RLSE DATE 12 JUL 91
ENGRG RLSE DATE

SCHEMATIC DIAGRAM
FRAME CONTROL PROCESSOR
TRANSFORMER PROCESSOR

SIZE D
DRAWING NO. 10-064700-03 A1
SCALE: NONE
SHEET 1 OF 26

	CADNETIX
DPM700	064700
USED ON	NEXT ASSY
APPLICATION	
DISTRIBUTION	

SEE SHEET 1 FOR REVISIONS

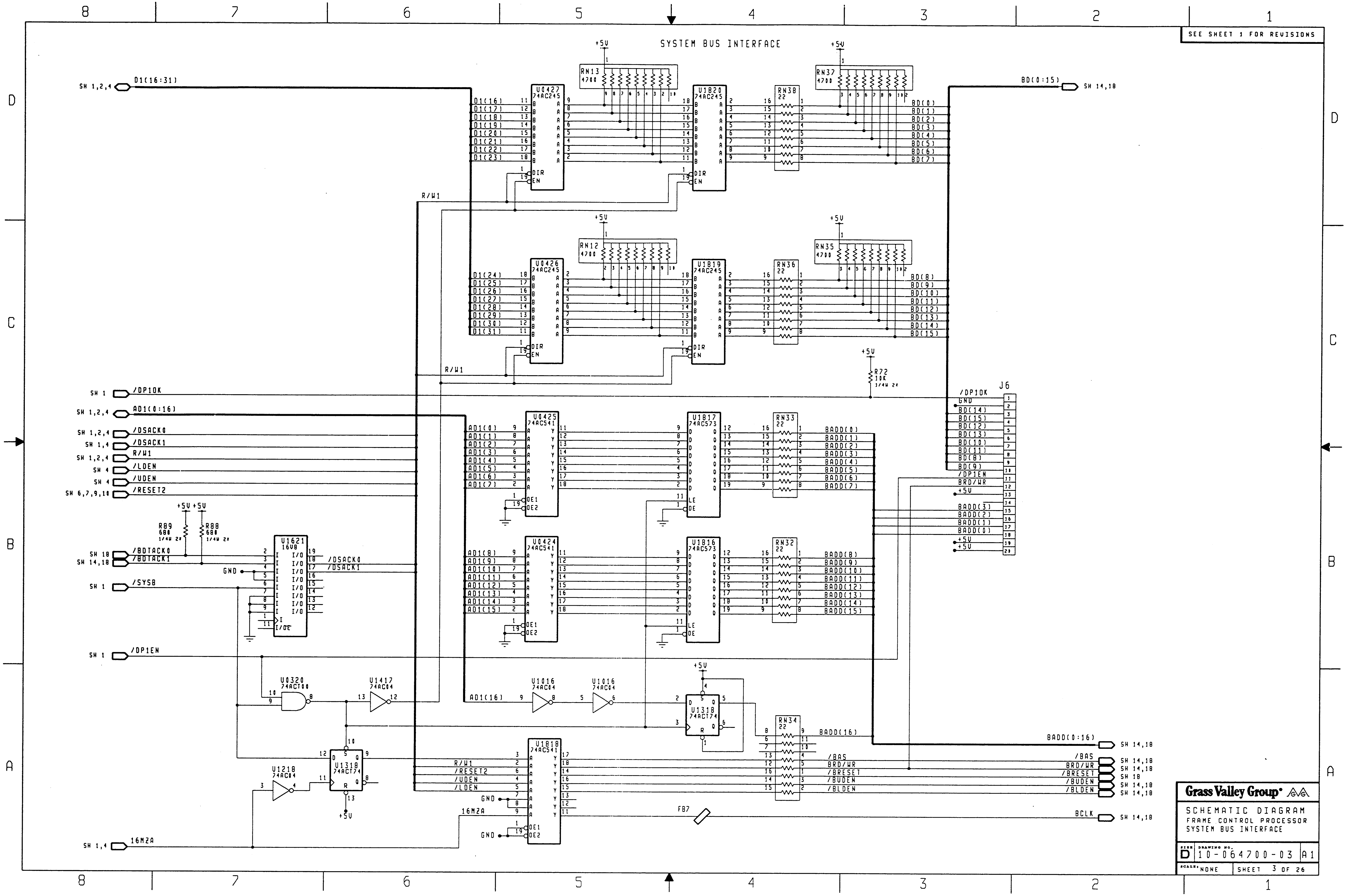

MC68020 SYSTEM RAM
MC68020 BOOT EPROM
RAM ADDRESS DECODER
RAM ADDRESS DECODER
AD1(0:19)
D1(0:31)
SH 1,3,4
U0118 A27C512
U0124 68256 -100
U0224 68256 -100
U0125 68256 -100
U0225 68256 -100
U0126 68256 -100
U0226 68256 -100
U0219 68256 -100
U0119 68256 -100
U0221 68256 -100
U0121 68256 -100
U0222 68256 -100
U0122 68256 -100
U0323 16V8-10
U0322 16V8-10
/PM1EN
/RM1EN
W/R1
R/W1
/DS1
/DSACK0
SIZ1.0
SIZ1.1
/MEM10K
+5V
R38 680 1/4W 2%
SH 1

Grass Valley Group

SCHEMATIC DIAGRAM
FRAME CONTROL PROCESSOR
TRANSFORMER RAM

SIZE D DRAWING NO. 10-064700-03 A1

SCALE NONE SHEET 2 OF 26


SYSTEM BUS INTERFACE
SEE SHEET 1 FOR REVISIONS
SH 1,2,4 D1(16:31)
U0427 74AC245
U1820 74AC245
U0426 74AC245
U1819 74AC245
RN13 4700
RN37 4700
RN12 4700
RN35 4700
RN38 22
RN36 22
RN33 22
RN32 22
RN34 22
+5V
D1(16) D1(17) D1(18) D1(19) D1(20) D1(21) D1(22) D1(23)
D1(24) D1(25) D1(26) D1(27) D1(28) D1(29) D1(30) D1(31)
DIR
EN
R/W1
BD(0:15) SH 14,18
BD(0) BD(1) BD(2) BD(3) BD(4) BD(5) BD(6) BD(7)
BD(8) BD(9) BD(10) BD(11) BD(12) BD(13) BD(14) BD(15)
R72 10K 1/4W 2%
J6
/DP10K
GND
SH 1 /DP10K
SH 1,2,4 AD1(0:16)
SH 1,2,4 /DSACK0
SH 1,4 /DSACK1
SH 1,2,4 R/W1
SH 4 /LDEN
SH 4 /UDEN
SH 6,7,9,10 /RESET2
U0425 74AC541
U0424 74AC541
U1817 74AC573
U1816 74AC573
AD1(0) AD1(1) AD1(2) AD1(3) AD1(4) AD1(5) AD1(6) AD1(7)
AD1(8) AD1(9) AD1(10) AD1(11) AD1(12) AD1(13) AD1(14) AD1(15)
OE1
OE2
LE
OE
BADD(0) BADD(1) BADD(2) BADD(3) BADD(4) BADD(5) BADD(6) BADD(7)
BADD(8) BADD(9) BADD(10) BADD(11) BADD(12) BADD(13) BADD(14) BADD(15)
/DP1EN
BRD/WR
R89 680 1/4W 2%
R88 680 1/4W 2%
SH 18 /BDTACK0
SH 14,18 /BDTACK1
U1621 16V8
/DSACK0
/DSACK1
SH 1 /SYSB
I/OE
SH 1 /DP1EN
U0320 74ACT00
U1417 74AC04
AD1(16)
U1016 74AC04
U1318 74ACT74
BADD(16)
BADD(0:16) SH 14,18
U1218 74AC04
U1818 74AC541
R/W1
/RESET2
/UDEN
/LDEN
16M2A
SH 1,4 16M2A
/BAS SH 14,18
BRD/WR SH 14,18
/BRESET SH 18
/BUDEN SH 14,18
/BLDEN SH 14,18
FB7
BCLK SH 14,18

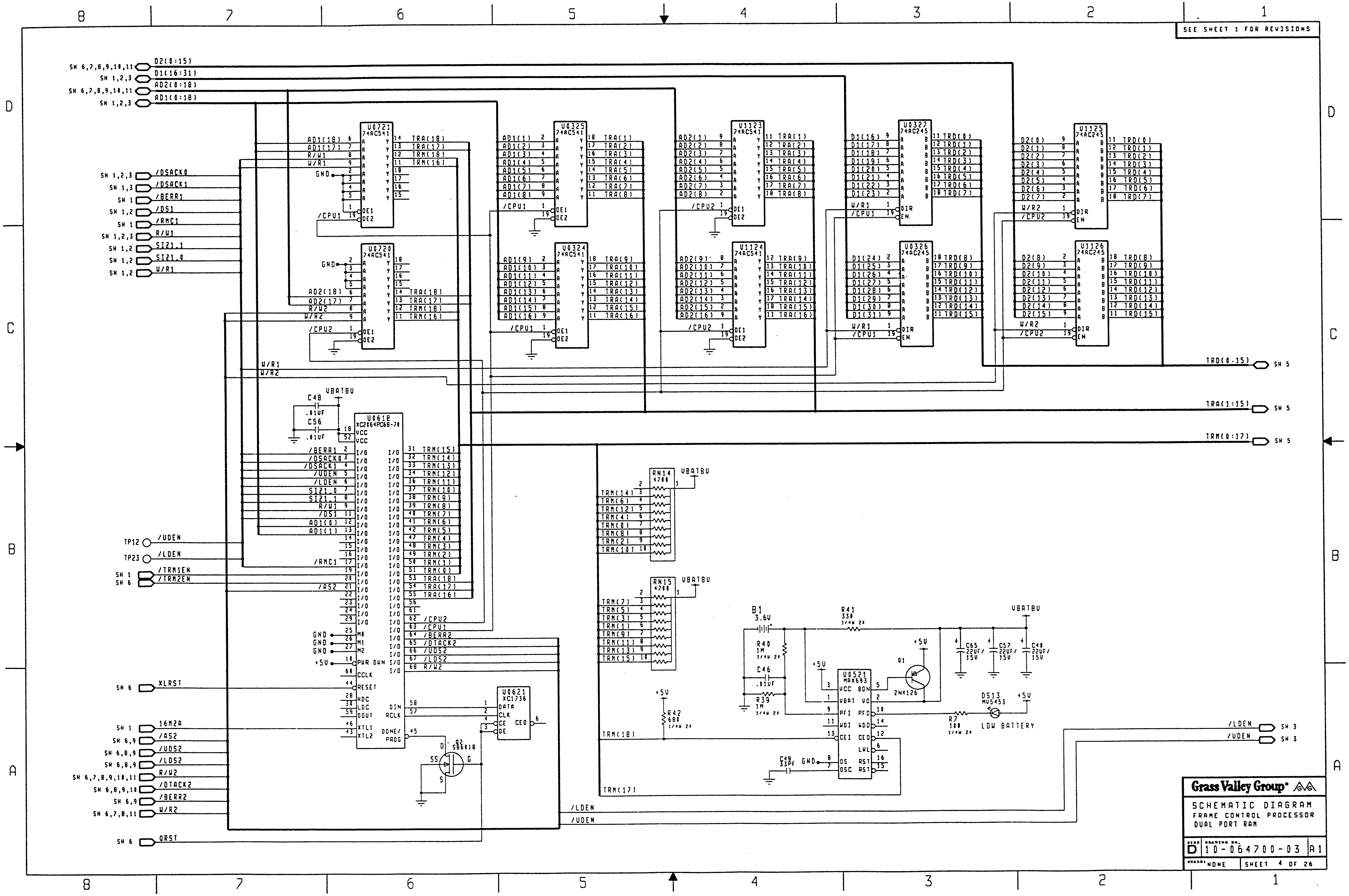
Grass Valley Group®

SCHEMATIC DIAGRAM
FRAME CONTROL PROCESSOR
SYSTEM BUS INTERFACE

SIZE D DRAWING NO. 10-064700-03 A1

SCALE: NONE SHEET 3 OF 26

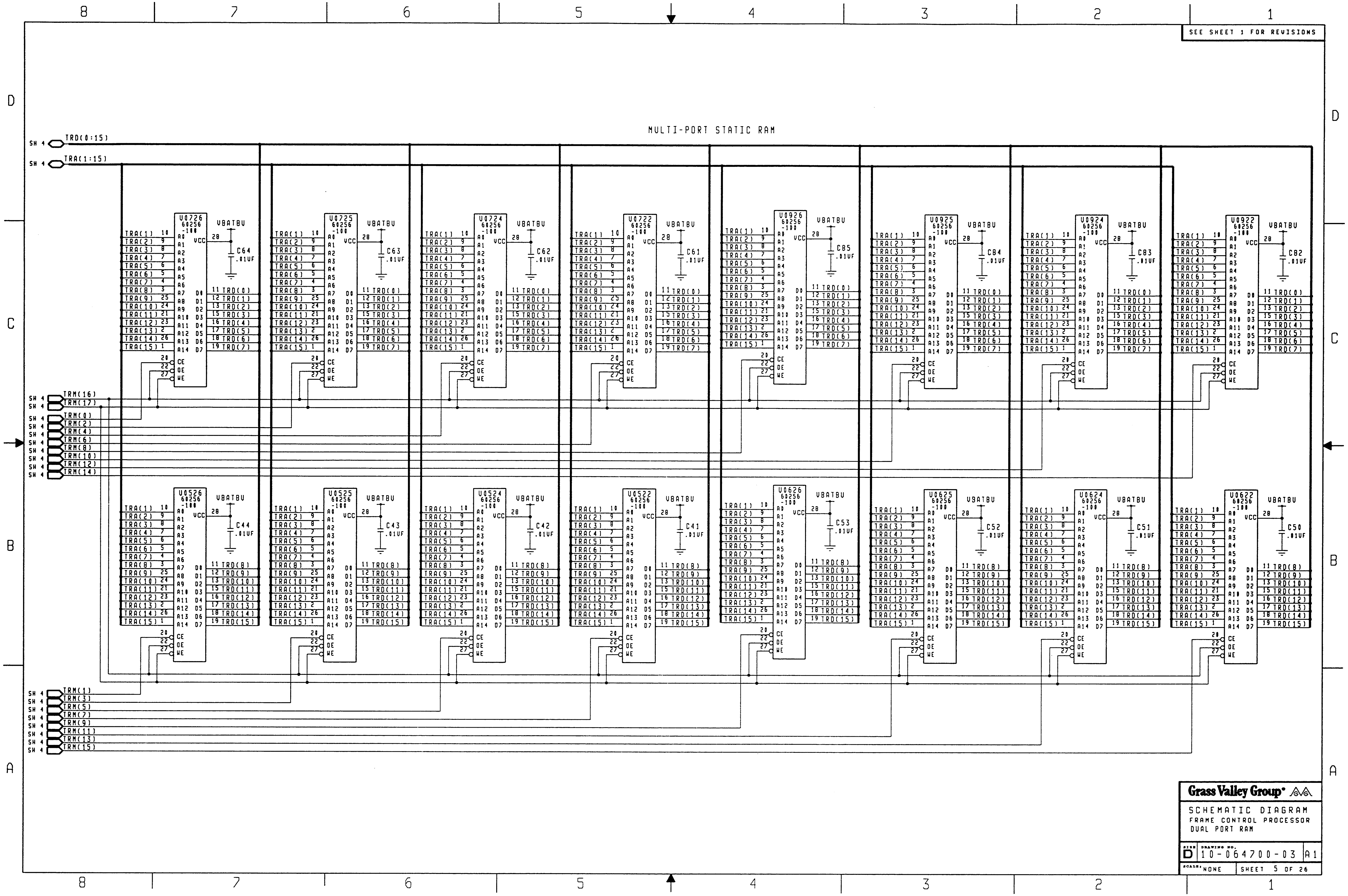
SEE SHEET 1 FOR REVISIONS


8
7
6
5
4
3
2
1
D
C
B
A
SH 6,7,8,9,10,11 D2(0:15)
SH 1,2,3 D1(16:31)
SH 6,7,8,9,10,11 AD2(0:18)
SH 1,2,3 AD1(0:18)
SH 1,2,3 /DSACK0
SH 1,3 /DSACK1
SH 1 /BERR1
SH 1,2 /DS1
SH 1 /RMC1
SH 1,2,3 R/W1
SH 1,2 SIZ1.1
SH 1,2 SIZ1.0
SH 1,2 W/R1
U0721 74AC541
U0720 74AC541
U0325 74AC541
U0324 74AC541
U1123 74AC541
U1124 74AC541
U0327 74AC245
U0326 74AC245
U1125 74AC245
U1126 74AC245
GND
/CPU1
/CPU2
W/R1
W/R2
R/W2
DIR
EN
OE1
OE2
TRA(1:15)
TRD(0:15)
TRM(0:17)
SH 5
C48 .01UF
C56 .01UF
VBATBU
U0610 XC2064PC68-70
VCC
I/O
M0
M1
M2
PWR DWN
CCLK
RESET
HDC
LDC
DOUT
XTL1
XTL2
DIN
RCLK
DONE/PROG
TP12 /UDEN
TP23 /LDEN
SH 1 /TRM1EN
SH 6 /TRM2EN
/AS2
SH 6 XLRST
SH 1 16MZA
SH 6,9 /AS2
SH 6,8,9 /UDS2
SH 6,8,9 /LDS2
SH 6,7,8,9,10,11 R/W2
SH 6,8,9,10 /DTACK2
SH 6,9 /BERR2
SH 6,7,8,11 W/R2
SH 6 ORST
U0621 XC1736
DATA
CLK
CE
OE
CEO
Q2 SD6010
RN14 470
RN15 470
B1 3.6V
R41 330 1/4W 2%
R40 1M 1/4W 2%
C46 .01UF
R39 1M 1/4W 2%
U0521 MAX693
VCC
BON
VBAT
VO
PFI
PFO
WDI
WDO
CEI
CEO
LWL
OS
OSC
RST
Q1 2N4126
C65 22UF/15V
C57 22UF/15V
C40 22UF/15V
+5V
R42 680 1/4W 2%
C49 33PF
R7 180 1/4W 2%
DS13 MV5453
LOW BATTERY
TRM(18)
TRM(17)
/LDEN
/UDEN
SH 3

Grass Valley Group®

SCHEMATIC DIAGRAM
FRAME CONTROL PROCESSOR
DUAL PORT RAM

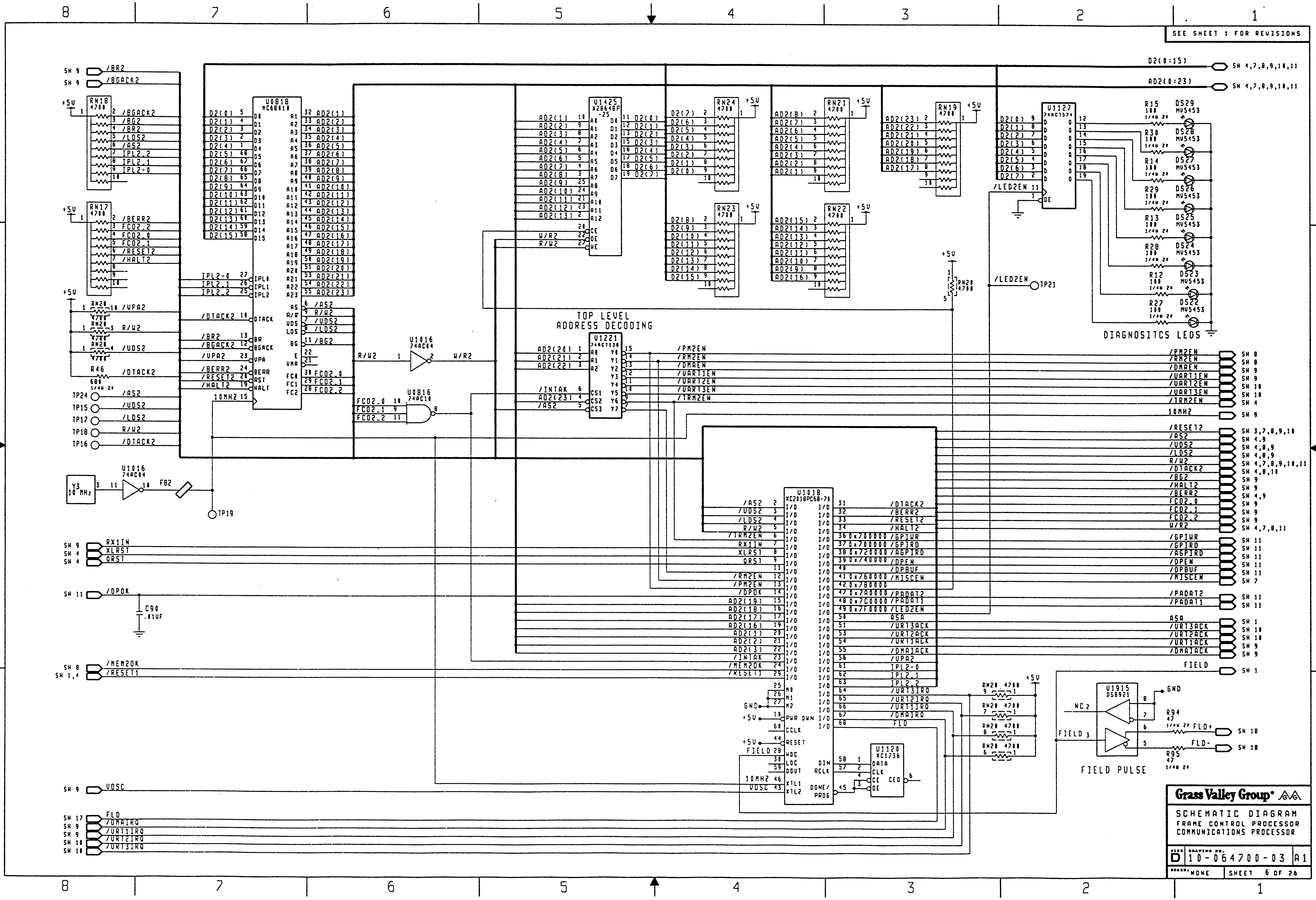
SIZE D | DRAWING NO. 10-064700-03 | A1
SCALE: NONE | SHEET 4 OF 26


SEE SHEET 1 FOR REVISIONS
MULTI-PORT STATIC RAM
SH 4 TRD(0:15)
SH 4 TRA(1:15)
SH 4 TRM(16)
SH 4 TRM(17)
SH 4 TRM(0)
SH 4 TRM(2)
SH 4 TRM(4)
SH 4 TRM(6)
SH 4 TRM(8)
SH 4 TRM(10)
SH 4 TRM(12)
SH 4 TRM(14)
SH 4 TRM(1)
SH 4 TRM(3)
SH 4 TRM(5)
SH 4 TRM(7)
SH 4 TRM(9)
SH 4 TRM(11)
SH 4 TRM(13)
SH 4 TRM(15)
U0726 60256 -100
U0725 60256 -100
U0724 60256 -100
U0722 60256 -100
U0926 60256 -100
U0925 60256 -100
U0924 60256 -100
U0922 60256 -100
U0526 60256 -100
U0525 60256 -100
U0524 60256 -100
U0522 60256 -100
U0626 60256 -100
U0625 60256 -100
U0624 60256 -100
U0622 60256 -100
VBATBU
VCC
C64 .01UF
C63 .01UF
C62 .01UF
C61 .01UF
C85 .01UF
C84 .01UF
C83 .01UF
C82 .01UF
C44 .01UF
C43 .01UF
C42 .01UF
C41 .01UF
C53 .01UF
C52 .01UF
C51 .01UF
C50 .01UF
TRA(1) 10 A0
TRA(2) 9 A1
TRA(3) 8 A2
TRA(4) 7 A3
TRA(5) 6 A4
TRA(6) 5 A5
TRA(7) 4 A6
TRA(8) 3 A7
TRA(9) 25 A8
TRA(10) 24 A9
TRA(11) 21 A10
TRA(12) 23 A11
TRA(13) 2 A12
TRA(14) 26 A13
TRA(15) 1 A14
D0 11 TRD(0)
D1 12 TRD(1)
D2 13 TRD(2)
D3 15 TRD(3)
D4 16 TRD(4)
D5 17 TRD(5)
D6 18 TRD(6)
D7 19 TRD(7)
D0 11 TRD(8)
D1 12 TRD(9)
D2 13 TRD(10)
D3 15 TRD(11)
D4 16 TRD(12)
D5 17 TRD(13)
D6 18 TRD(14)
D7 19 TRD(15)
20 CE
22 OE
27 WE
28
8 7 6 5 4 3 2 1
D C B A

Grass Valley Group®

SCHEMATIC DIAGRAM
FRAME CONTROL PROCESSOR
DUAL PORT RAM

SIZE	DRAWING NO.	
D	10-064700-03	A1
SCALE: NONE	SHEET 5 OF 26	


TOP LEVEL ADDRESS DECODING
DIAGNOSITCS LEDS
FIELD PULSE
U0818 MC68010
U1425 X28C64BP-25
U1221 74ACT138
U1127 74ACT574
U1016 74AC04
U0816 74AC10
U1018 XC2018PC68-70
U1120 XC1736
U1915 DS8921
Y3 10 MHz
FB2
TP19
TP21
TP24
TP15
TP17
TP18
TP16
C90 .01UF
RN18 4700
RN17 4700
RN20 4700
RN24 4700
RN23 4700
RN21 4700
RN22 4700
RN19 4700
R46 680 1/4W 2%
R94 47 1/4W 2%
R95 47 1/4W 2%
DS29 MV5453
DS28 MV5453
DS27 MV5453
DS26 MV5453
DS25 MV5453
DS24 MV5453
DS23 MV5453
DS22 MV5453
R15 100
R30 100
R14 100
R29 100
R13 100
R28 100
R12 100
R27 100
D2(0:15)
AD2(0:23)
SH 4,7,8,9,10,11
/LED2EN
10MHZ
VOSC
FIELD
FLD+
FLD-
SH 10
GND
+5V

SEE SHEET 1 FOR REVISIONS

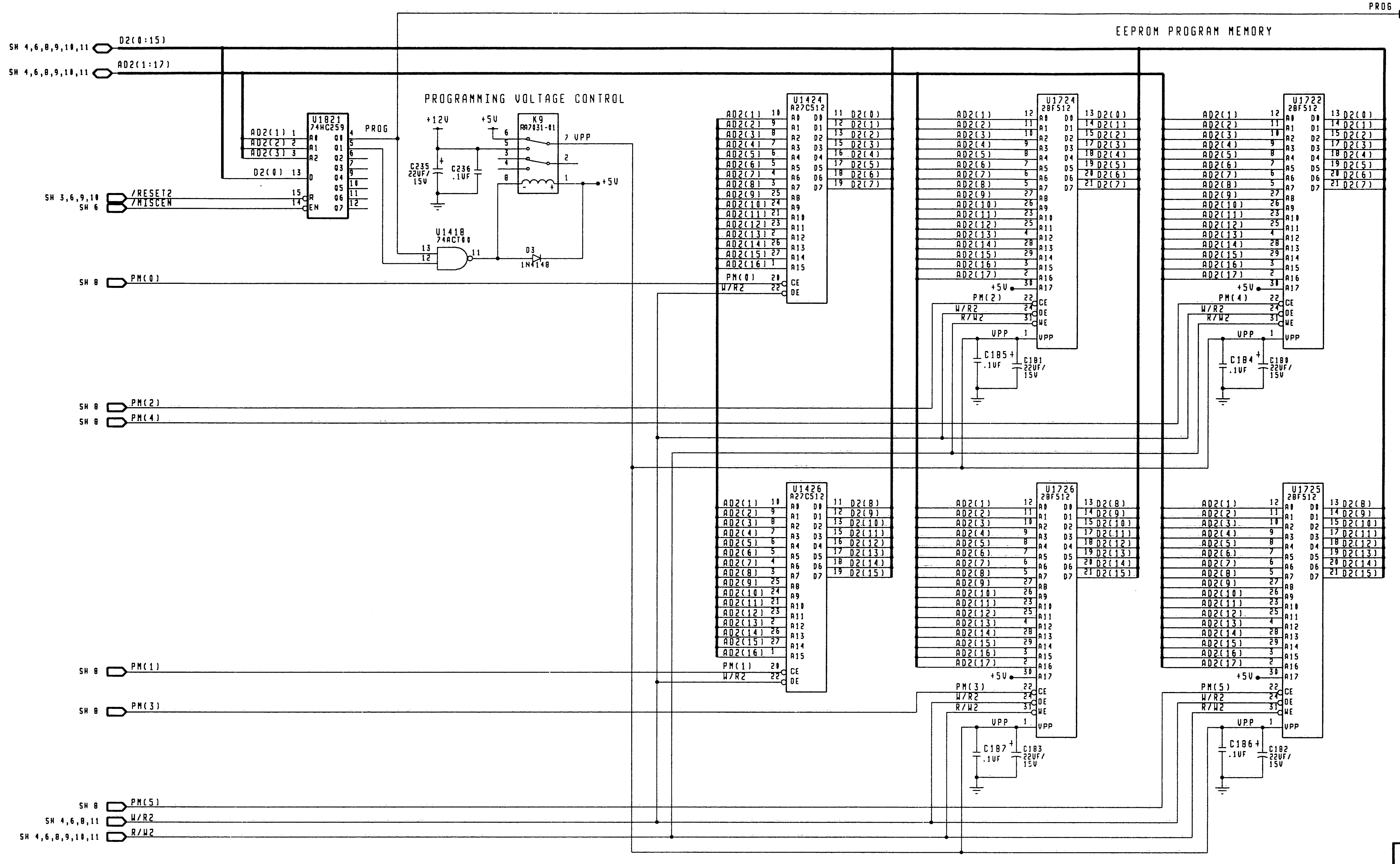
Grass Valley Group®

SCHEMATIC DIAGRAM
FRAME CONTROL PROCESSOR
COMMUNICATIONS PROCESSOR

SIZE D DRAWING NO. 10-064700-03 A1

SCALE NONE SHEET 6 OF 26

SEE SHEET 1 FOR REVISIONS


EEPROM PROGRAM MEMORY
PROGRAMMING VOLTAGE CONTROL
PROG
SH 8
SH 4,6,8,9,10,11
D2(0:15)
AD2(1:17)
SH 3,6,9,10
SH 6
/RESET2
/MISCEN
U1821
74HC259
U1418
74ACT00
K9
RA7031-01
VPP
+12V
+5V
C235
22UF/
15V
C236
.1UF
D3
1N4148
PM(0)
PM(1)
PM(2)
PM(3)
PM(4)
PM(5)
W/R2
R/W2
U1424
A27C512
U1426
A27C512
U1724
28F512
U1726
28F512
U1722
28F512
U1725
28F512
C185
C181
C184
C180
C187
C183
C186
C182
.1UF
22UF/
15V
CE
OE
WE
VPP

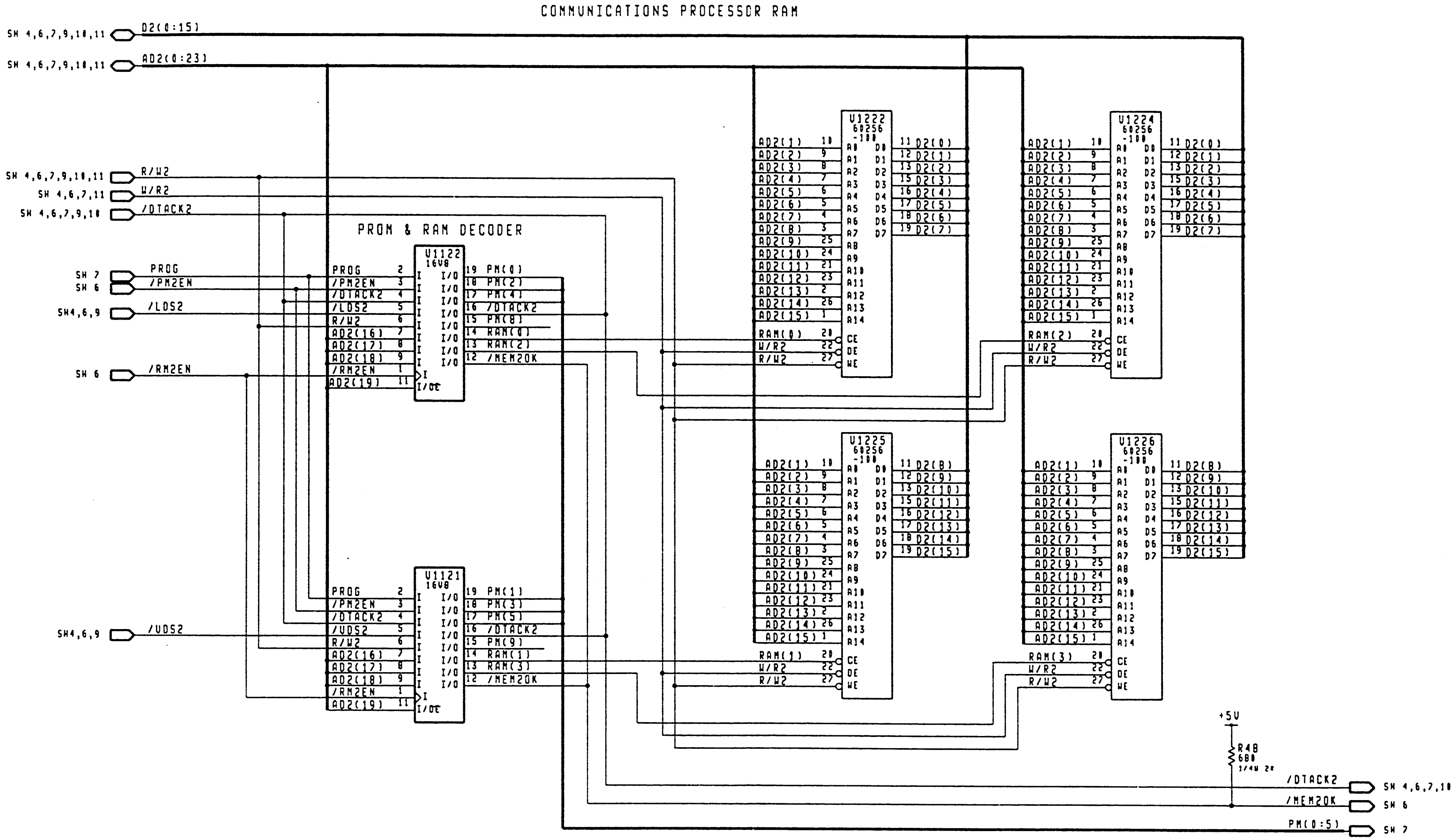
Grass Valley Group®

SCHEMATIC DIAGRAM
FRAME CONTROL PROCESSOR
SYSTEM EEPROM

SIZE	DRAWING NO.	
D	10-064700-03	A1

SCALE: NONE | SHEET 7 OF 26

SEE SHEET 1 FOR REVISIONS


COMMUNICATIONS PROCESSOR RAM
SH 4,6,7,9,10,11 D2(0:15)
SH 4,6,7,9,10,11 AD2(0:23)
SH 4,6,7,9,10,11 R/W2
SH 4,6,7,11 W/R2
SH 4,6,7,9,10 /DTACK2
PROM & RAM DECODER
SH 7 PROG
SH 6 /PM2EN
SH4,6,9 /LDS2
SH 6 /RM2EN
SH4,6,9 /UDS2
U1122 16V8
PROG 2, /PM2EN 3, /DTACK2 4, /LDS2 5, R/W2 6, AD2(16) 7, AD2(17) 8, AD2(18) 9, /RM2EN 1, AD2(19) 11
19 PM(0), 18 PM(2), 17 PM(4), 16 /DTACK2, 15 PM(8), 14 RAM(0), 13 RAM(2), 12 /MEM2OK
U1121 16V8
PROG 2, /PM2EN 3, /DTACK2 4, /UDS2 5, R/W2 6, AD2(16) 7, AD2(17) 8, AD2(18) 9, /RM2EN 1, AD2(19) 11
19 PM(1), 18 PM(3), 17 PM(5), 16 /DTACK2, 15 PM(9), 14 RAM(1), 13 RAM(3), 12 /MEM2OK
I I/O I/OE
U1222 60256 -100
U1224 60256 -100
U1225 60256 -100
U1226 60256 -100
AD2(1) 10 A0, AD2(2) 9 A1, AD2(3) 8 A2, AD2(4) 7 A3, AD2(5) 6 A4, AD2(6) 5 A5, AD2(7) 4 A6, AD2(8) 3 A7, AD2(9) 25 A8, AD2(10) 24 A9, AD2(11) 21 A10, AD2(12) 23 A11, AD2(13) 2 A12, AD2(14) 26 A13, AD2(15) 1 A14
RAM(0) 20 CE, W/R2 22 OE, R/W2 27 WE
RAM(2) 20 CE, W/R2 22 OE, R/W2 27 WE
RAM(1) 20 CE, W/R2 22 OE, R/W2 27 WE
RAM(3) 20 CE, W/R2 22 OE, R/W2 27 WE
D0 11 D2(0), D1 12 D2(1), D2 13 D2(2), D3 15 D2(3), D4 16 D2(4), D5 17 D2(5), D6 18 D2(6), D7 19 D2(7)
D0 11 D2(8), D1 12 D2(9), D2 13 D2(10), D3 15 D2(11), D4 16 D2(12), D5 17 D2(13), D6 18 D2(14), D7 19 D2(15)
+5V
R48 680 1/4W 2%
/DTACK2 SH 4,6,7,10
/MEM2OK SH 6
PM(0:5) SH 7

Grass Valley Group®

SCHEMATIC DIAGRAM
FRAME CONTROL PROCESSOR
COMMUNICATIONS PROCESSOR RAM

SIZE	DRAWING NO.	
D	10-064700-03	A1
SCALE: NONE	SHEET 8 OF 26	

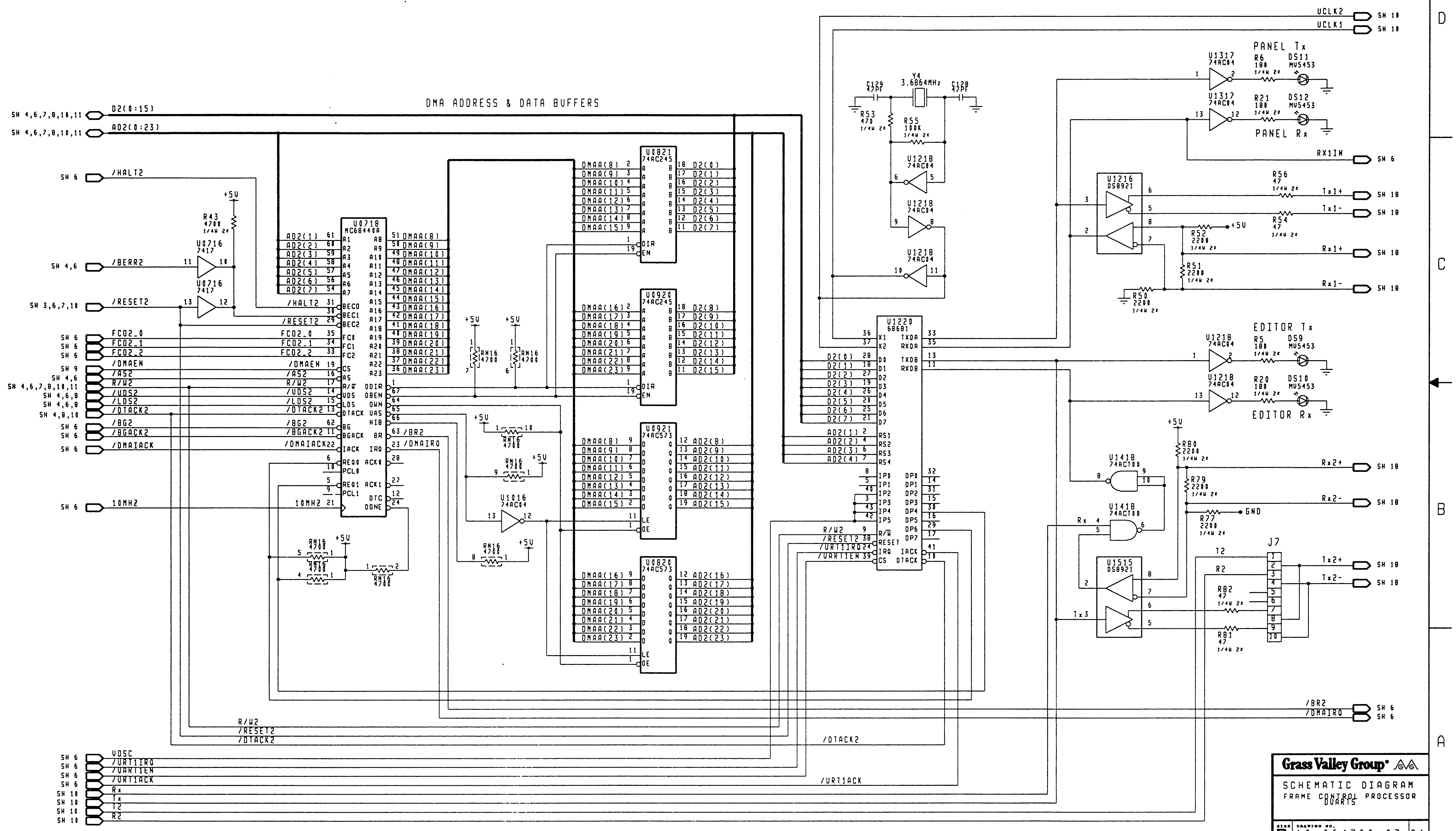
SEE SHEET 1 FOR REVISIONS

NOTE: THE EDITOR PORT (#1) MAY BE JUMPER SELECTED AS EITHER A RS-232 OR 422 PORT.

FOR RS-232:
J7-1 to 2
J7-3 to 4] JUMPERED
J7-7 to 8
J7-9 to 10] OPEN

FOR RS-422:
J7-1 to 2
J7-3 to 4] OPEN
J7-7 to 8
J7-9 to 10] JUMPERED

CONTROL PANEL IS PORT#1
SECONDARDY RS-422 IS PORT #2



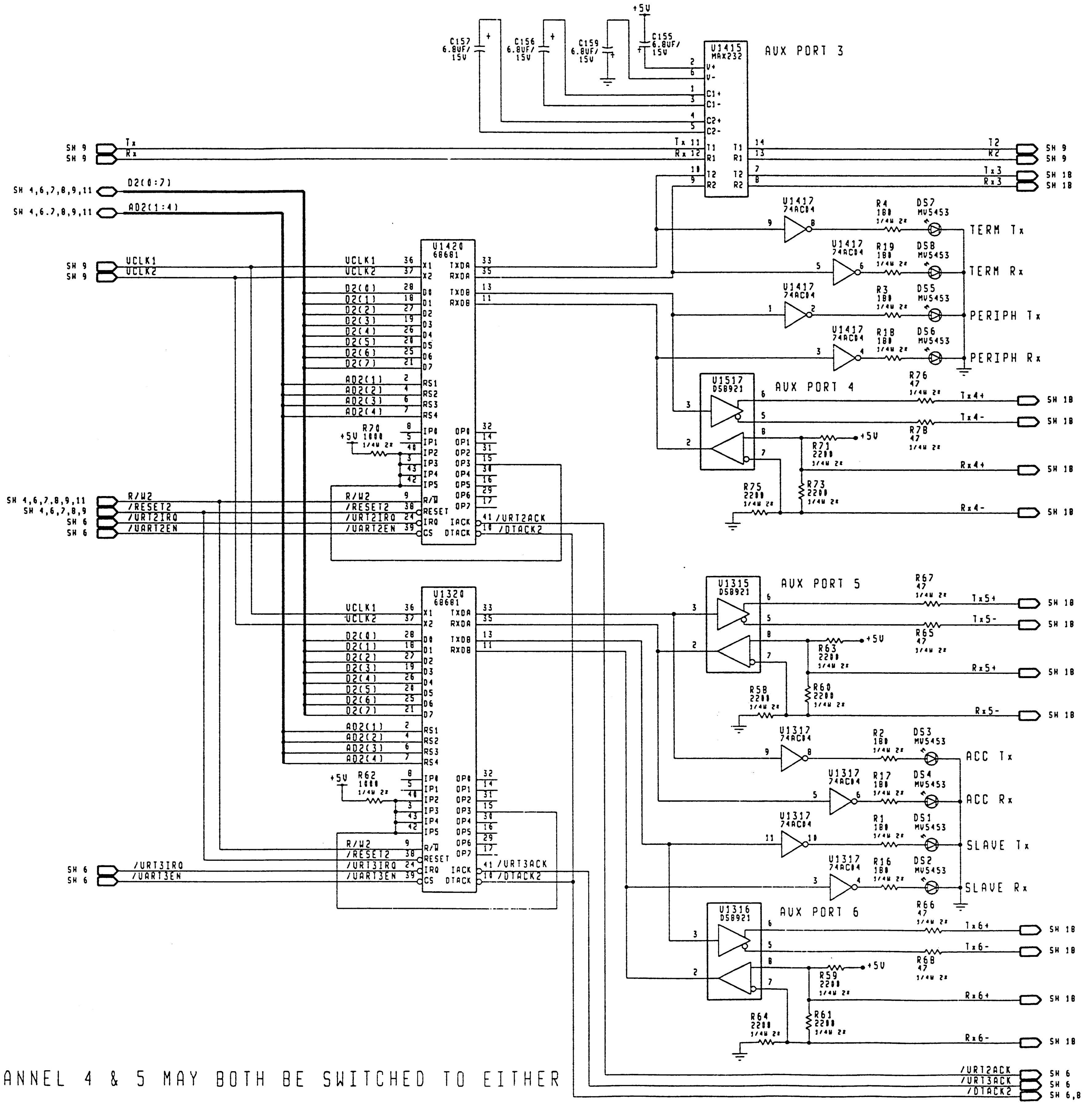
DMA ADDRESS & DATA BUFFERS
SH 4,6,7,8,10,11 D2(0:15)
SH 4,6,7,8,10,11 AD2(0:23)
SH 6 /HALT2
SH 4,6 /BERR2
SH 3,6,7,10 /RESET2
SH 6 FC02_0
SH 6 FC02_1
SH 6 FC02_2
SH 9 /DMAEN
SH 4,6 /AS2
SH 4,6,7,8,10,11 R/W2
SH 4,6,8 /UDS2
SH 4,6,8 /LDS2
SH 4,8,10 /DTACK2
SH 6 /BG2
SH 6 /BGACK2
SH 6 /DMAIACK
SH 6 10MHZ
+5V
R43 4700 1/4W 2%
U0716 7417
U0718 MC68440A
U0821 74AC245
U0920 74AC245
U0921 74AC573
U0824 74AC573
RN16 4700
DMAA(8) … DMAA(23)
D2(0) … D2(15)
AD2(8) … AD2(23)
DIR
EN
LE
OE
U1016 74AC04
/BR2
/DMAIRQ
C129 47PF
Y4 3.6864MHz
C128 47PF
R53 470 1/4W 2%
R55 100K 1/4W 2%
U1218 74AC04
U1220 68681
X1
X2
TXDA
RXDA
TXDB
RXDB
RS1
RS2
RS3
RS4
IP0 IP1 IP2 IP3 IP4 IP5
OP0 OP1 OP2 OP3 OP4 OP5 OP6 OP7
R/W
RESET
IRQ
CS
IACK
DTACK
/RESET2
/URT1IRQ
/UARTIEN
UCLK2 SH 10
UCLK1 SH 10
PANEL Tx
U1317 74AC04
R6 100 1/4W 2%
DS11 MV5453
R21 100 1/4W 2%
DS12 MV5453
PANEL Rx
RX1IN SH 6
U1216 DS8921
R56 47 1/4W 2%
R54 47 1/4W 2%
Tx1+ SH 10
Tx1- SH 10
R52 2200 1/4W 2%
R51 2200 1/4W 2%
R50 2200 1/4W 2%
Rx1+ SH 10
Rx1- SH 10
EDITOR Tx
R5 100 1/4W 2%
DS9 MV5453
R20 100 1/4W 2%
DS10 MV5453
EDITOR Rx
R80 2200 1/4W 2%
R79 2200 1/4W 2%
R77 2200 1/4W 2%
GND
U1418 74ACT00
Rx2+ SH 10
Rx2- SH 10
U1515 DS8921
J7
T2
R2
R82 47 1/4W 2%
R81 47 1/4W 2%
Tx3
Tx2+ SH 10
Tx2- SH 10
/BR2 SH 6
/DMAIRQ SH 6
R/W2
/RESET2
/DTACK2
/URT1ACK
SH 6 UOSC
SH 6 /URT1IRQ
SH 6 /UARTIEN
SH 6 /URT1ACK
SH 10 Rx
SH 10 Tx
SH 10 T2
SH 10 R2

Grass Valley Group®

SCHEMATIC DIAGRAM
FRAME CONTROL PROCESSOR
DUARTS

SIZE D
DRAWING NO. 10-064700-03 A1
SCALE: NONE
SHEET 9 OF 26

SEE SHEET 1 FOR REVISIONS



+5V
C157 6.8UF/15V
C156 6.8UF/15V
C159 6.8UF/15V
C155 6.8UF/15V
U1415 MAX232
AUX PORT 3
V+
V-
C1+
C1-
C2+
C2-
T1
R1
T2
R2
Tx
Rx
T2
R2
Tx3
Rx3
SH 9
SH 10
SH 4,6,7,8,9,11
D2(0:7)
AD2(1:4)
UCLK1
UCLK2
U1420 68681
U1320 68681
X1
X2
TXDA
RXDA
TXDB
RXDB
D2(0)
D2(1)
D2(2)
D2(3)
D2(4)
D2(5)
D2(6)
D2(7)
AD2(1)
AD2(2)
AD2(3)
AD2(4)
RS1
RS2
RS3
RS4
IP0
IP1
IP2
IP3
IP4
IP5
OP0
OP1
OP2
OP3
OP4
OP5
OP6
OP7
R70 1000 1/4W 2%
R62 1000 1/4W 2%
R/W2
/RESET2
/URT2IRQ
/UART2EN
/URT3IRQ
/UART3EN
RESET
IRQ
CS
IACK
DTACK
/URT2ACK
/URT3ACK
/DTACK2
SH 4,6,7,8,9
SH 6
SH 6,8
U1417 74AC04
R4 100 1/4W 2%
R19 100
R3 100
R18 100
DS7 MV5453
DS8 MV5453
DS5 MV5453
DS6 MV5453
TERM Tx
TERM Rx
PERIPH Tx
PERIPH Rx
U1517 DS8921
AUX PORT 4
R76 47 1/4W 2%
R78 47 1/4W 2%
R71 220 1/4W 2%
R73 220 1/4W 2%
R75 220 1/4W 2%
Tx4+
Tx4-
Rx4+
Rx4-
U1315 DS8921
AUX PORT 5
R67 47 1/4W 2%
R65 47 1/4W 2%
R63 220 1/4W 2%
R60 220 1/4W 2%
R58 220 1/4W 2%
Tx5+
Tx5-
Rx5+
Rx5-
U1317 74AC04
R2 100 1/4W 2%
R17 100
R1 100
R16 100
DS3 MV5453
DS4 MV5453
DS1 MV5453
DS2 MV5453
ACC Tx
ACC Rx
SLAVE Tx
SLAVE Rx
U1316 DS8921
AUX PORT 6
R66 47 1/4W 2%
R68 47 1/4W 2%
R59 220 1/4W 2%
R61 220 1/4W 2%
R64 220 1/4W 2%
Tx6+
Tx6-
Rx6+
Rx6-

NOTE: CHANNEL 4 & 5 MAY BOTH BE SWITCHED TO EITHER

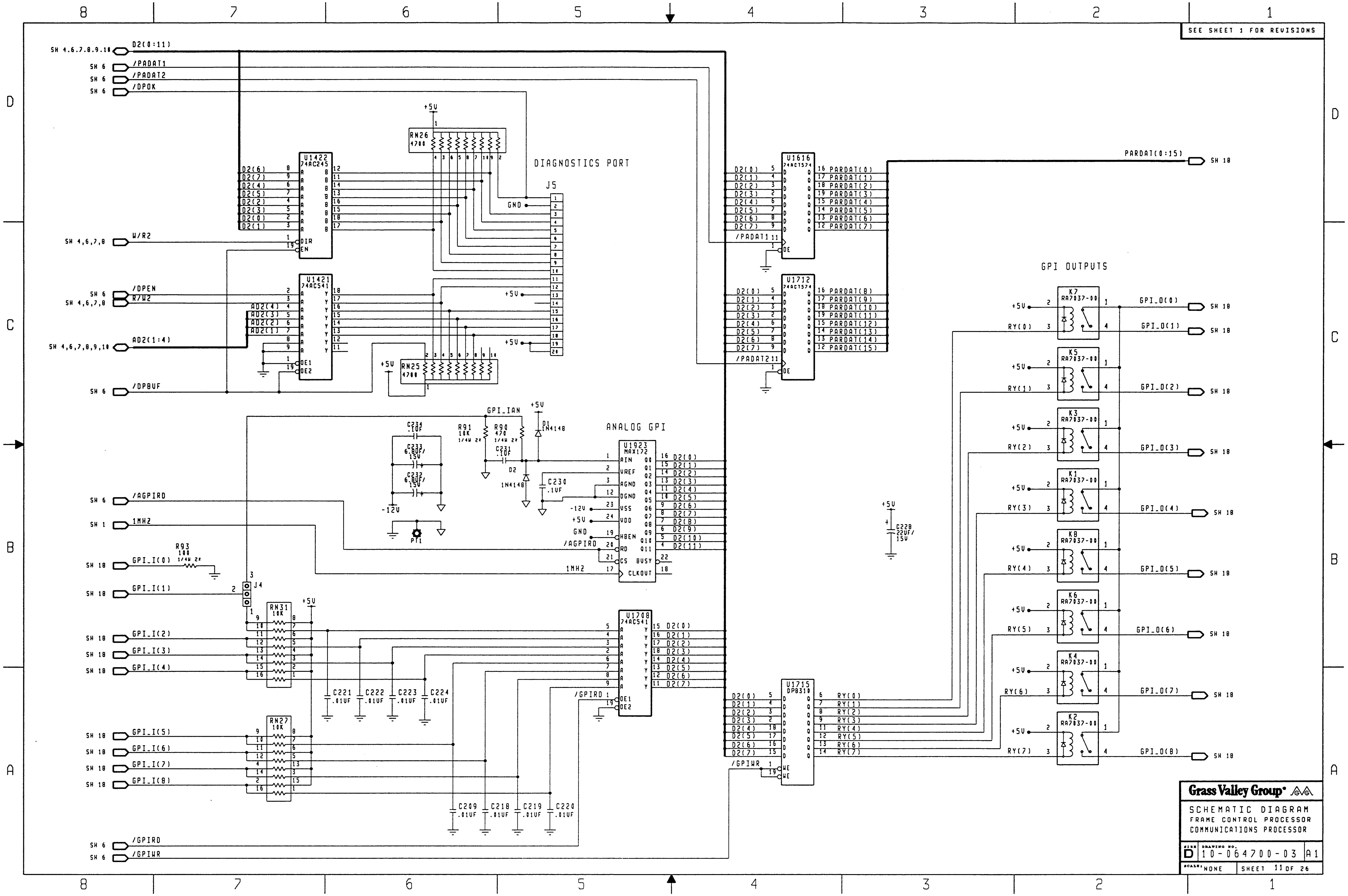
Grass Valley Group®

SCHEMATIC DIAGRAM
FRAME CONTROL PROCESSOR
DUARTS CONT.

SIZE D DRAWING NO. 10-064700-03 A1

SCALE: NONE SHEET 10 OF 26

SEE SHEET 1 FOR REVISIONS

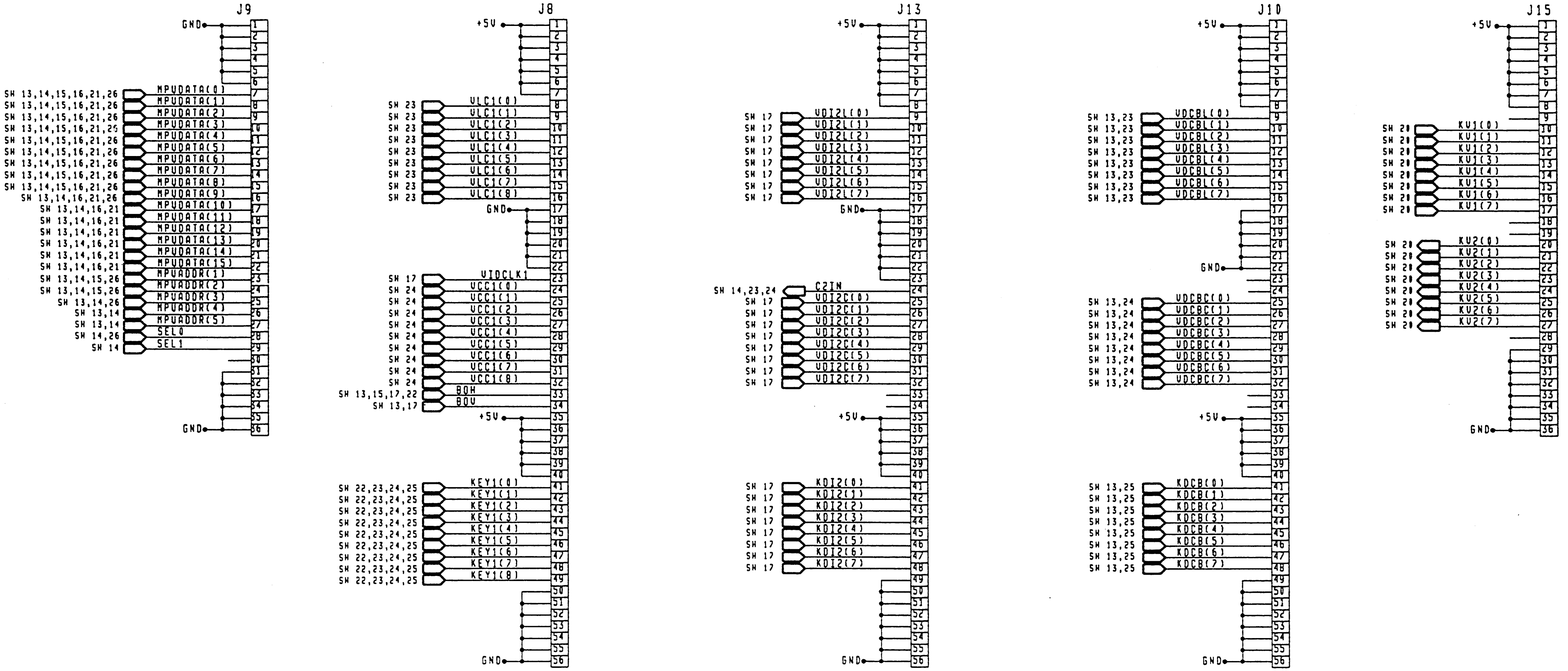

8
7
6
5
4
3
2
1
D
C
B
A
SH 4,6,7,8,9,10
D2(0:11)
SH 6
/PADAT1
SH 6
/PADAT2
SH 6
/DPOK
+5V
RN26
4700
DIAGNOSTICS PORT
J5
GND
U1422
74AC245
DIR
EN
SH 4,6,7,8
W/R2
U1421
74AC541
OE1
OE2
SH 6
/DPEN
SH 4,6,7,8
R/W2
AD2(4)
AD2(3)
AD2(2)
AD2(1)
SH 4,6,7,8,9,10
AD2(1:4)
RN25
4700
SH 6
/DPBUF
U1616
74AC1574
OE
U1712
74AC1574
PARDAT(0:15)
SH 10
GPI OUTPUTS
K7
K5
K3
K1
K8
K6
K4
K2
RA7037-00
RY(0)
RY(1)
RY(2)
RY(3)
RY(4)
RY(5)
RY(6)
RY(7)
GPI_O(0)
GPI_O(1)
GPI_O(2)
GPI_O(3)
GPI_O(4)
GPI_O(5)
GPI_O(6)
GPI_O(7)
GPI_O(8)
GPI_IAN
C234 .1UF
C233 6.8UF/15V
C232 6.8UF/15V
-12V
R91 10K 1/4W 2%
R90 470 1/4W 2%
C231 .1UF
D2 1N4148
D1 1N4148
C230 .1UF
PT1
ANALOG GPI
U1923
MAX172
AIN
VREF
AGND
DGND
VSS
VDD
HBEN
RD
CS
BUSY
CLKOUT
SH 6
/AGPIRD
SH 1
1MHZ
R93
100
1/4W 2%
GPI_I(0)
GPI_I(1)
J4
RN31
10K
GPI_I(2)
GPI_I(3)
GPI_I(4)
C221 .01UF
C222 .01UF
C223 .01UF
C224 .01UF
U1708
74AC541
/GPIRD
RN27
10K
GPI_I(5)
GPI_I(6)
GPI_I(7)
GPI_I(8)
C209 .01UF
C218 .01UF
C219 .01UF
C220 .01UF
U1715
DP8310
/GPIWR
WE
C228 22UF/15V
SH 6
/GPIRD
SH 6
/GPIWR

Grass Valley Group®

SCHEMATIC DIAGRAM
FRAME CONTROL PROCESSOR
COMMUNICATIONS PROCESSOR

SIZE	DRAWING NO.	
D	10-064700-03	A1
SCALE: NONE	SHEET 11 OF 26	

SEE SHEET 1 FOR REVISIONS


J9
GND
SH 13,14,15,16,21,26 MPUDATA(0)
SH 13,14,15,16,21,26 MPUDATA(1)
SH 13,14,15,16,21,26 MPUDATA(2)
SH 13,14,15,16,21,26 MPUDATA(3)
SH 13,14,15,16,21,26 MPUDATA(4)
SH 13,14,15,16,21,26 MPUDATA(5)
SH 13,14,15,16,21,26 MPUDATA(6)
SH 13,14,15,16,21,26 MPUDATA(7)
SH 13,14,15,16,21,26 MPUDATA(8)
SH 13,14,16,21,26 MPUDATA(9)
SH 13,14,16,21 MPUDATA(10)
SH 13,14,16,21 MPUDATA(11)
SH 13,14,16,21 MPUDATA(12)
SH 13,14,16,21 MPUDATA(13)
SH 13,14,16,21 MPUDATA(14)
SH 13,14,16,21 MPUDATA(15)
SH 13,14,15,26 MPUADDR(1)
SH 13,14,15,26 MPUADDR(2)
SH 13,14,26 MPUADDR(3)
SH 13,14 MPUADDR(4)
SH 13,14 MPUADDR(5)
SH 14,26 SEL0
SH 14 SEL1
GND
J8
+5V
SH 23 VLC1(0)
SH 23 VLC1(1)
SH 23 VLC1(2)
SH 23 VLC1(3)
SH 23 VLC1(4)
SH 23 VLC1(5)
SH 23 VLC1(6)
SH 23 VLC1(7)
SH 23 VLC1(8)
GND
SH 17 VIDCLK1
SH 24 VCC1(0)
SH 24 VCC1(1)
SH 24 VCC1(2)
SH 24 VCC1(3)
SH 24 VCC1(4)
SH 24 VCC1(5)
SH 24 VCC1(6)
SH 24 VCC1(7)
SH 24 VCC1(8)
SH 13,15,17,22 80H
SH 13,17 80V
+5V
SH 22,23,24,25 KEY1(0)
SH 22,23,24,25 KEY1(1)
SH 22,23,24,25 KEY1(2)
SH 22,23,24,25 KEY1(3)
SH 22,23,24,25 KEY1(4)
SH 22,23,24,25 KEY1(5)
SH 22,23,24,25 KEY1(6)
SH 22,23,24,25 KEY1(7)
SH 22,23,24,25 KEY1(8)
GND
J13
+5V
SH 17 VDI2L(0)
SH 17 VDI2L(1)
SH 17 VDI2L(2)
SH 17 VDI2L(3)
SH 17 VDI2L(4)
SH 17 VDI2L(5)
SH 17 VDI2L(6)
SH 17 VDI2L(7)
GND
SH 14,23,24 C2IN
SH 17 VDI2C(0)
SH 17 VDI2C(1)
SH 17 VDI2C(2)
SH 17 VDI2C(3)
SH 17 VDI2C(4)
SH 17 VDI2C(5)
SH 17 VDI2C(6)
SH 17 VDI2C(7)
+5V
SH 17 KDI2(0)
SH 17 KDI2(1)
SH 17 KDI2(2)
SH 17 KDI2(3)
SH 17 KDI2(4)
SH 17 KDI2(5)
SH 17 KDI2(6)
SH 17 KDI2(7)
GND
J10
+5V
SH 13,23 VDCBL(0)
SH 13,23 VDCBL(1)
SH 13,23 VDCBL(2)
SH 13,23 VDCBL(3)
SH 13,23 VDCBL(4)
SH 13,23 VDCBL(5)
SH 13,23 VDCBL(6)
SH 13,23 VDCBL(7)
GND
SH 13,24 VDCBC(0)
SH 13,24 VDCBC(1)
SH 13,24 VDCBC(2)
SH 13,24 VDCBC(3)
SH 13,24 VDCBC(4)
SH 13,24 VDCBC(5)
SH 13,24 VDCBC(6)
SH 13,24 VDCBC(7)
+5V
SH 13,25 KDCB(0)
SH 13,25 KDCB(1)
SH 13,25 KDCB(2)
SH 13,25 KDCB(3)
SH 13,25 KDCB(4)
SH 13,25 KDCB(5)
SH 13,25 KDCB(6)
SH 13,25 KDCB(7)
GND
J15
+5V
SH 20 KV1(0)
SH 20 KV1(1)
SH 20 KV1(2)
SH 20 KV1(3)
SH 20 KV1(4)
SH 20 KV1(5)
SH 20 KV1(6)
SH 20 KV1(7)
SH 20 KV2(0)
SH 20 KV2(1)
SH 20 KV2(2)
SH 20 KV2(3)
SH 20 KV2(4)
SH 20 KV2(5)
SH 20 KV2(6)
SH 20 KV2(7)
GND

Grass Valley Group®

SCHEMATIC DIAGRAM
FRAME CONTROL PROCESSOR
COMBINER CONNECTORS

SIZE	DRAWING NO.	
D	10-064700-03	A1
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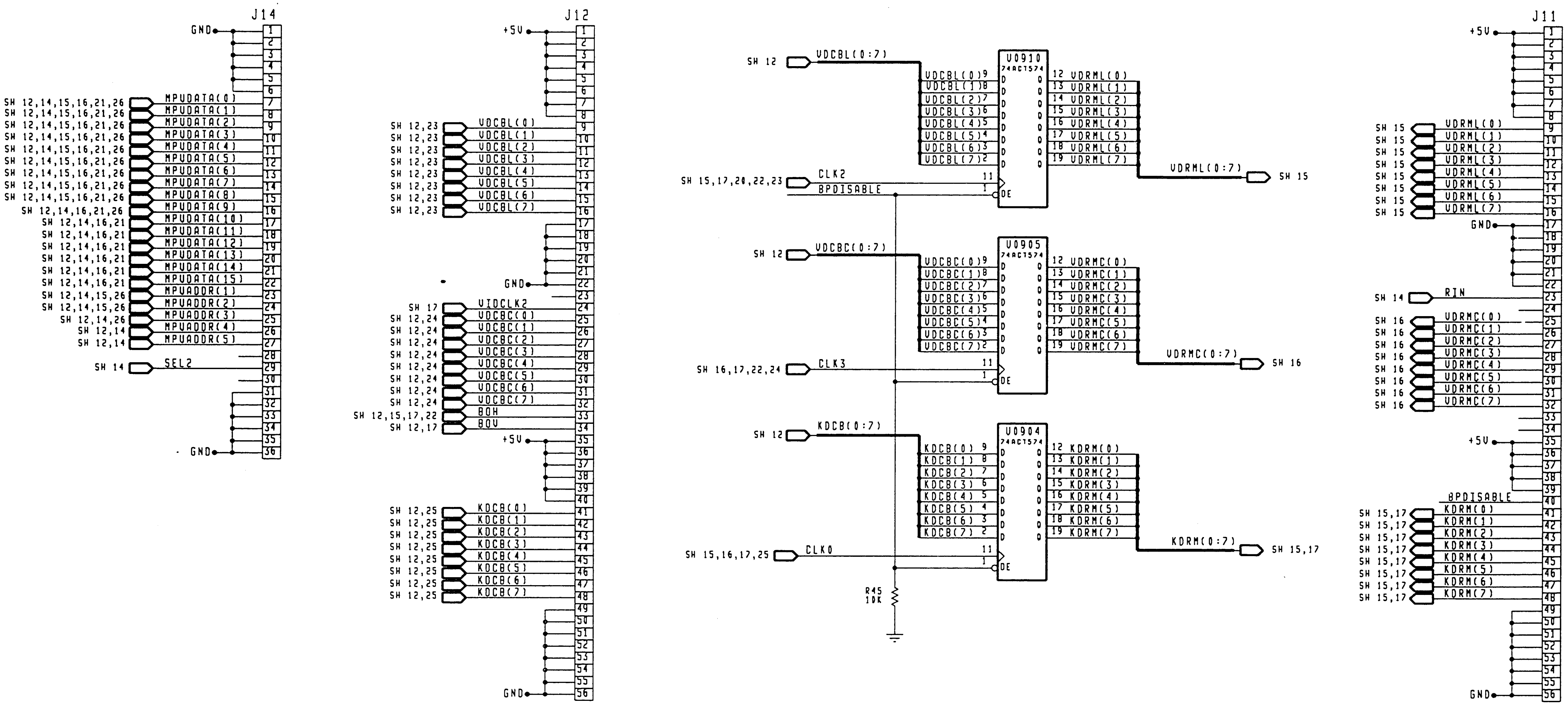
SEE SHEET 1 FOR REVISIONS


J14
GND
SH 12,14,15,16,21,26
MPUDATA(0)
MPUDATA(1)
MPUDATA(2)
MPUDATA(3)
MPUDATA(4)
MPUDATA(5)
MPUDATA(6)
MPUDATA(7)
MPUDATA(8)
SH 12,14,16,21,26
MPUDATA(9)
SH 12,14,16,21
MPUDATA(10)
MPUDATA(11)
MPUDATA(12)
MPUDATA(13)
MPUDATA(14)
MPUDATA(15)
SH 12,14,15,26
MPUADDR(1)
MPUADDR(2)
SH 12,14,26
MPUADDR(3)
SH 12,14
MPUADDR(4)
MPUADDR(5)
SH 14
SEL2
J12
+5V
SH 12,23
VDCBL(0)
VDCBL(1)
VDCBL(2)
VDCBL(3)
VDCBL(4)
VDCBL(5)
VDCBL(6)
VDCBL(7)
GND
SH 17
VIDCLK2
SH 12,24
VDCBC(0)
VDCBC(1)
VDCBC(2)
VDCBC(3)
VDCBC(4)
VDCBC(5)
VDCBC(6)
VDCBC(7)
SH 12,15,17,22
BOH
SH 12,17
BOV
SH 12,25
KDCB(0)
KDCB(1)
KDCB(2)
KDCB(3)
KDCB(4)
KDCB(5)
KDCB(6)
KDCB(7)
SH 12
VDCBL(0:7)
U0910
74ACT574
VDRML(0)
VDRML(1)
VDRML(2)
VDRML(3)
VDRML(4)
VDRML(5)
VDRML(6)
VDRML(7)
VDRML(0:7)
SH 15
SH 15,17,20,22,23
CLK2
BPDISABLE
VDCBC(0:7)
U0905
74ACT574
VDRMC(0)
VDRMC(1)
VDRMC(2)
VDRMC(3)
VDRMC(4)
VDRMC(5)
VDRMC(6)
VDRMC(7)
VDRMC(0:7)
SH 16
SH 16,17,22,24
CLK3
KDCB(0:7)
U0904
74ACT574
KDRM(0)
KDRM(1)
KDRM(2)
KDRM(3)
KDRM(4)
KDRM(5)
KDRM(6)
KDRM(7)
KDRM(0:7)
SH 15,17
SH 15,16,17,25
CLK0
OE
R45
10K
J11
RIN
SH 14
BPDISABLE

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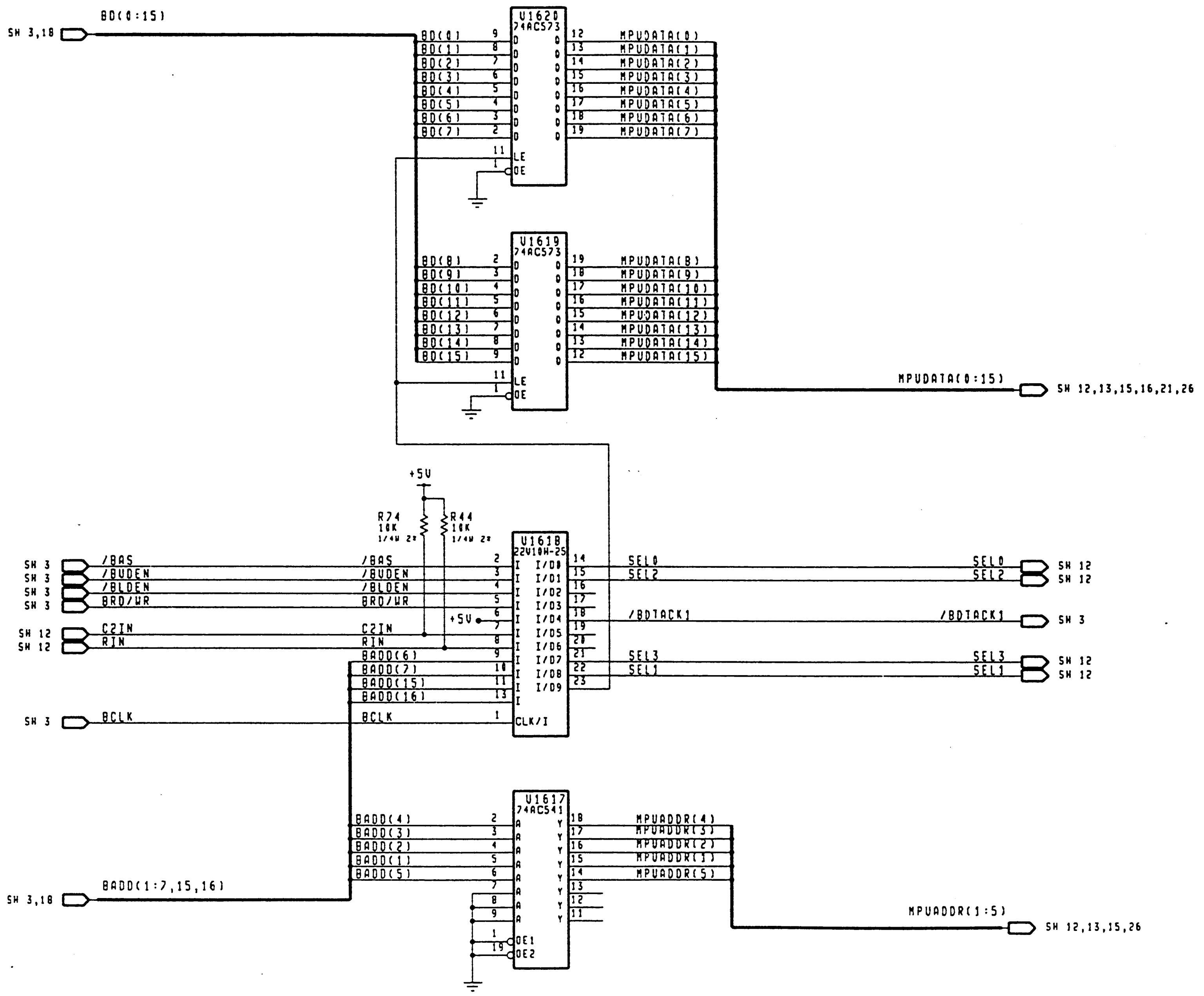
SCHEMATIC DIAGRAM
FRAME CONTROL PROCESSOR
RECURSIVE MEMORY CONNECTORS

SIZE	DRAWING NO.	
D	10-064700-03	A1
SCALE: NONE	SHEET 13 OF 26	

SEE SHEET 1 FOR REVISIONS



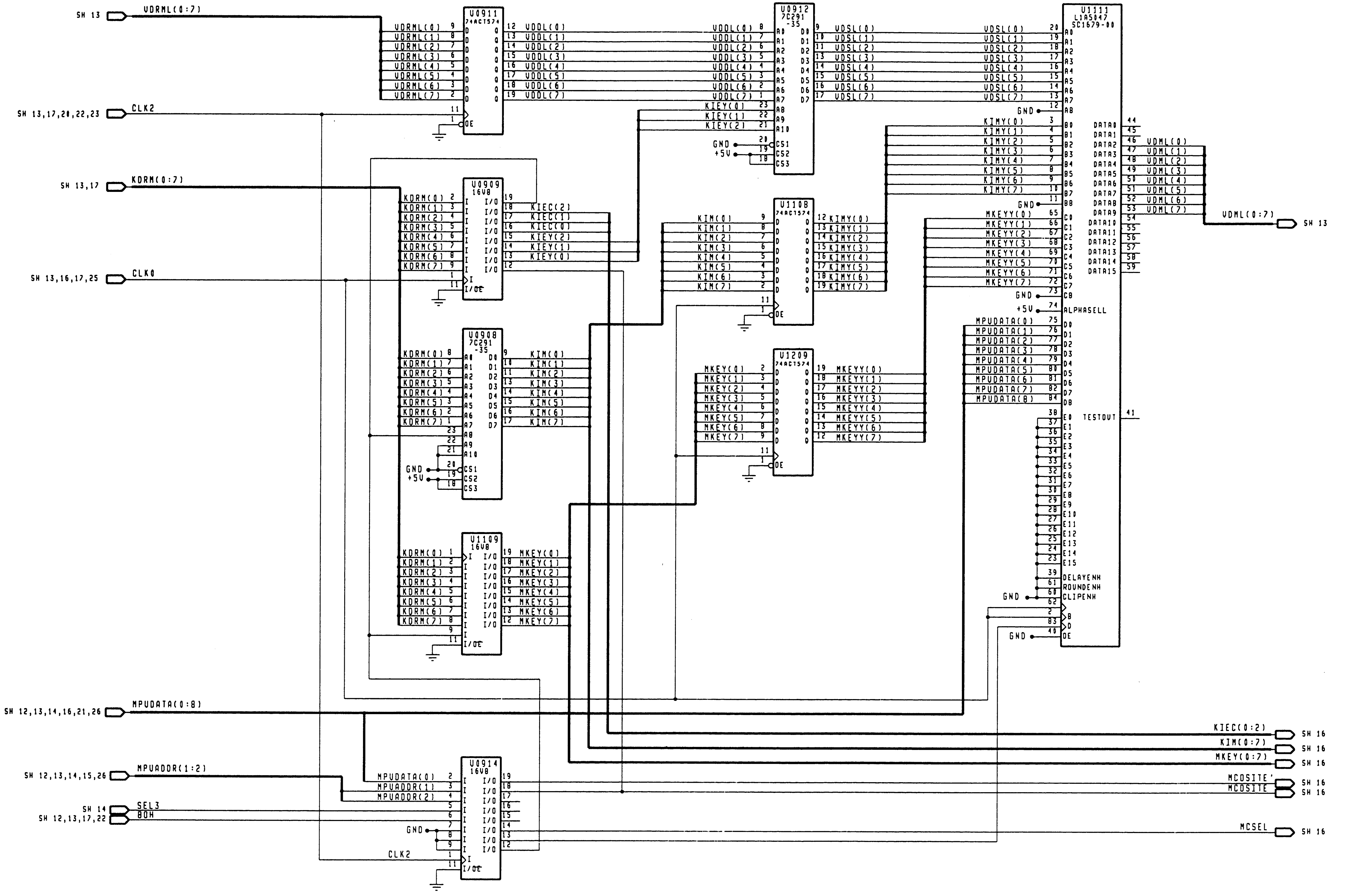
SH 3,18
BD(0:15)
U1620
74AC573
BD(0) BD(1) BD(2) BD(3) BD(4) BD(5) BD(6) BD(7)
LE
OE
MPUDATA(0) MPUDATA(1) MPUDATA(2) MPUDATA(3) MPUDATA(4) MPUDATA(5) MPUDATA(6) MPUDATA(7)
U1619
74AC573
BD(8) BD(9) BD(10) BD(11) BD(12) BD(13) BD(14) BD(15)
MPUDATA(8) MPUDATA(9) MPUDATA(10) MPUDATA(11) MPUDATA(12) MPUDATA(13) MPUDATA(14) MPUDATA(15)
MPUDATA(0:15)
SH 12,13,15,16,21,26
+5V
R74
10K
1/4W 2%
R44
10K
1/4W 2%
U1618
22V10H-25
SH 3 /BAS
SH 3 /BUDEN
SH 3 /BLDEN
SH 3 BRD/WR
SH 12 C2IN
SH 12 RIN
BADD(6) BADD(7) BADD(15) BADD(16)
SH 3 BCLK
CLK/I
I/O0 I/O1 I/O2 I/O3 I/O4 I/O5 I/O6 I/O7 I/O8 I/O9
SEL0 SH 12
SEL2 SH 12
/BDTACK1 SH 3
SEL3 SH 12
SEL1 SH 12
U1617
74AC541
BADD(4) BADD(3) BADD(2) BADD(1) BADD(5)
OE1
OE2
SH 3,18
BADD(1:7,15,16)
MPUADDR(4) MPUADDR(3) MPUADDR(2) MPUADDR(1) MPUADDR(5)
MPUADDR(1:5)
SH 12,13,15,26

Grass Valley Group®

SCHEMATIC DIAGRAM
FRAME CONTROL PROCESSOR
CONTROL BUS INTERFACE

SIZE D
DRAWING NO. 10-064700-03
A1
SCALE: NONE
SHEET 14 OF 26

SEE SHEET 1 FOR REVISIONS


SH 13
VDRML(0:7)
SH 13,17,20,22,23
CLK2
SH 13,17
KDRM(0:7)
SH 13,16,17,25
CLK0
SH 12,13,14,16,21,26
MPUDATA(0:8)
SH 12,13,14,15,26
MPUADDR(1:2)
SH 14
SEL3
SH 12,13,17,22
80H
U0911
74AC1574
VDRML(0)
VDRML(1)
VDRML(2)
VDRML(3)
VDRML(4)
VDRML(5)
VDRML(6)
VDRML(7)
VDDL(0)
VDDL(1)
VDDL(2)
VDDL(3)
VDDL(4)
VDDL(5)
VDDL(6)
VDDL(7)
U0912
7C291
-35
KIEY(0)
KIEY(1)
KIEY(2)
GND
+5V
VDSL(0)
VDSL(1)
VDSL(2)
VDSL(3)
VDSL(4)
VDSL(5)
VDSL(6)
VDSL(7)
U1111
L1A5047
SC1679-00
KIMY(0)
KIMY(1)
KIMY(2)
KIMY(3)
KIMY(4)
KIMY(5)
KIMY(6)
KIMY(7)
MKEYY(0)
MKEYY(1)
MKEYY(2)
MKEYY(3)
MKEYY(4)
MKEYY(5)
MKEYY(6)
MKEYY(7)
ALPHASELL
MPUDATA(0)
MPUDATA(1)
MPUDATA(2)
MPUDATA(3)
MPUDATA(4)
MPUDATA(5)
MPUDATA(6)
MPUDATA(7)
MPUDATA(8)
DATA0
DATA1
DATA2
DATA3
DATA4
DATA5
DATA6
DATA7
DATA8
DATA9
DATA10
DATA11
DATA12
DATA13
DATA14
DATA15
TESTOUT
DELAYENH
ROUNDENH
CLIPENH
VDML(0)
VDML(1)
VDML(2)
VDML(3)
VDML(4)
VDML(5)
VDML(6)
VDML(7)
VDML(0:7)
SH 13
U0909
16V8
KDRM(0)
KDRM(1)
KDRM(2)
KDRM(3)
KDRM(4)
KDRM(5)
KDRM(6)
KDRM(7)
KIEC(2)
KIEC(1)
KIEC(0)
KIEY(2)
KIEY(1)
KIEY(0)
U0908
7C291
-35
KIM(0)
KIM(1)
KIM(2)
KIM(3)
KIM(4)
KIM(5)
KIM(6)
KIM(7)
U1108
74AC1574
U1209
74AC1574
MKEY(0)
MKEY(1)
MKEY(2)
MKEY(3)
MKEY(4)
MKEY(5)
MKEY(6)
MKEY(7)
U1109
16V8
U0914
16V8
MPUDATA(0)
MPUADDR(1)
MPUADDR(2)
CLK2
KIEC(0:2)
KIM(0:7)
MKEY(0:7)
MCOSITE'
MCOSITE
MCSEL
SH 16

Grass Valley Group®

SCHEMATIC DIAGRAM
FRAME CONTROL PROCESSOR
MATTE ADDER LUMA

SIZE	DRAWING NO.	
D	10-064700-03	A1
SCALE: NONE	SHEET 15 OF 26	

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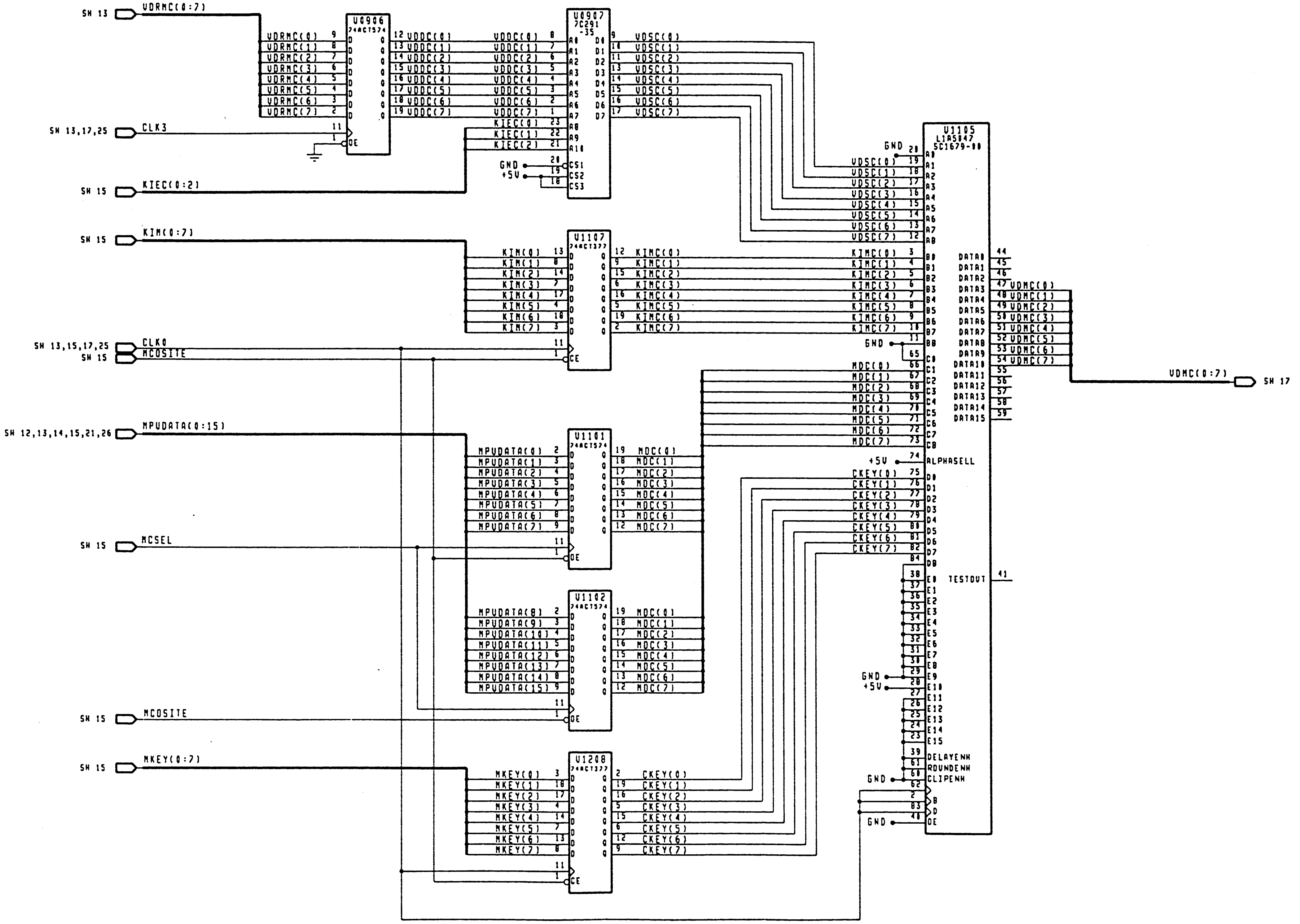


SH 13
VDRMC(0:7)
U0906
74ACT574
VDRMC(0)
VDRMC(1)
VDRMC(2)
VDRMC(3)
VDRMC(4)
VDRMC(5)
VDRMC(6)
VDRMC(7)
VDDC(0)
VDDC(1)
VDDC(2)
VDDC(3)
VDDC(4)
VDDC(5)
VDDC(6)
VDDC(7)
SH 13,17,25
CLK3
OE
SH 15
KIEC(0:2)
KIEC(0)
KIEC(1)
KIEC(2)
U0907
7C291
-35
A0
A1
A2
A3
A4
A5
A6
A7
A8
A9
A10
CS1
CS2
CS3
GND
+5V
D0
D1
D2
D3
D4
D5
D6
D7
VDSC(0)
VDSC(1)
VDSC(2)
VDSC(3)
VDSC(4)
VDSC(5)
VDSC(6)
VDSC(7)
SH 15
KIM(0:7)
U1107
74ACT377
KIM(0)
KIM(1)
KIM(2)
KIM(3)
KIM(4)
KIM(5)
KIM(6)
KIM(7)
KIMC(0)
KIMC(1)
KIMC(2)
KIMC(3)
KIMC(4)
KIMC(5)
KIMC(6)
KIMC(7)
SH 13,15,17,25
CLK0
SH 15
MCOSITE
SH 12,13,14,15,21,26
MPUDATA(0:15)
U1101
74ACT574
MPUDATA(0)
MPUDATA(1)
MPUDATA(2)
MPUDATA(3)
MPUDATA(4)
MPUDATA(5)
MPUDATA(6)
MPUDATA(7)
MDC(0)
MDC(1)
MDC(2)
MDC(3)
MDC(4)
MDC(5)
MDC(6)
MDC(7)
SH 15
MCSEL
U1102
74ACT574
MPUDATA(8)
MPUDATA(9)
MPUDATA(10)
MPUDATA(11)
MPUDATA(12)
MPUDATA(13)
MPUDATA(14)
MPUDATA(15)
SH 15
MCOSITE
SH 15
MKEY(0:7)
U1208
74ACT377
MKEY(0)
MKEY(1)
MKEY(2)
MKEY(3)
MKEY(4)
MKEY(5)
MKEY(6)
MKEY(7)
CKEY(0)
CKEY(1)
CKEY(2)
CKEY(3)
CKEY(4)
CKEY(5)
CKEY(6)
CKEY(7)
U1105
L1A5047
SC1679-00
GND
A0
A1
A2
A3
A4
A5
A6
A7
A8
B0
B1
B2
B3
B4
B5
B6
B7
B8
C0
C1
C2
C3
C4
C5
C6
C7
C8
+5V
ALPHASELL
D0
D1
D2
D3
D4
D5
D6
D7
D8
E0
E1
E2
E3
E4
E5
E6
E7
E8
E9
E10
E11
E12
E13
E14
E15
DELAYENH
ROUNDENH
CLIPENH
B
D
OE
DATA0
DATA1
DATA2
DATA3
DATA4
DATA5
DATA6
DATA7
DATA8
DATA9
DATA10
DATA11
DATA12
DATA13
DATA14
DATA15
TESTOUT
VDMC(0)
VDMC(1)
VDMC(2)
VDMC(3)
VDMC(4)
VDMC(5)
VDMC(6)
VDMC(7)
VDMC(0:7)
SH 17

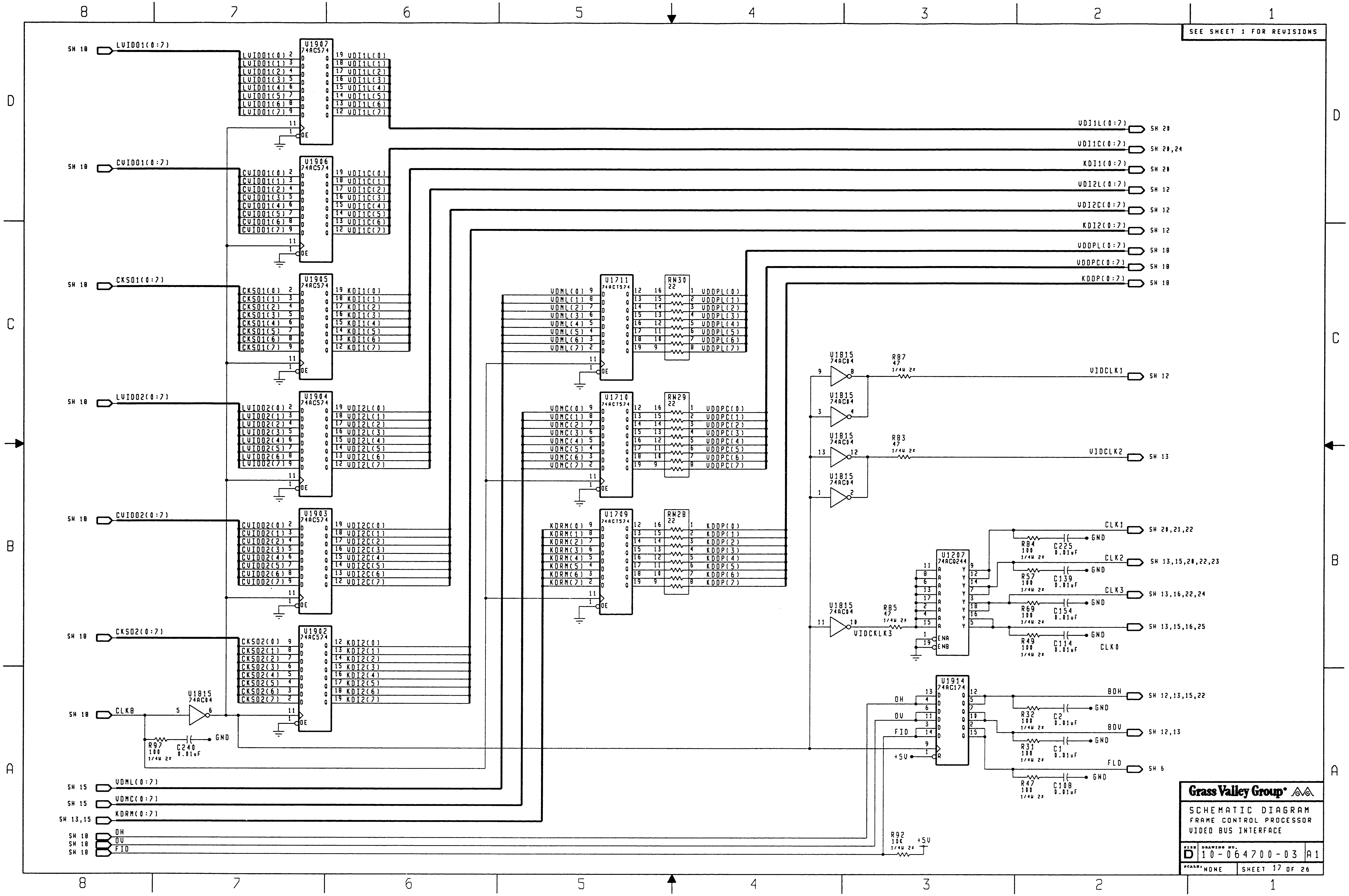
Grass Valley Group®

SCHEMATIC DIAGRAM
FRAME CONTROL PROCESSOR
MATTE ADDER CHROMA

SIZE D DRAWING NO. 10-064700-03 A1

SCALE: NONE SHEET 16 OF 26

SEE SHEET 1 FOR REVISIONS


SH 18 LVIDO1(0:7)
U1907 74AC574
VDI1L(0:7) SH 20
SH 18 CVIDO1(0:7)
U1906 74AC574
VDI1C(0:7) SH 20,24
KDI1(0:7) SH 20
SH 18 CKSO1(0:7)
U1905 74AC574
VDI2L(0:7) SH 12
VDI2C(0:7) SH 12
KDI2(0:7) SH 12
VDOPL(0:7) SH 18
VDOPC(0:7) SH 18
KDOP(0:7) SH 18
SH 18 LVIDO2(0:7)
U1904 74AC574
SH 18 CVIDO2(0:7)
U1903 74AC574
SH 18 CKSO2(0:7)
U1902 74AC574
U1711 74ACT574
RN30 22
U1710 74ACT574
RN29 22
U1709 74ACT574
RN28 22
U1815 74AC04
R87 47 1/4W 2%
VIDCLK1 SH 12
R83 47 1/4W 2%
VIDCLK2 SH 13
R85 47 1/4W 2%
VIDCKLK3
U1207 74AC0244
CLK1 SH 20,21,22
R84 100 1/4W 2% C225 0.01uF GND
CLK2 SH 13,15,20,22,23
R57 100 1/4W 2% C139 0.01uF GND
CLK3 SH 13,16,22,24
R69 100 1/4W 2% C154 0.01uF GND
SH 13,15,16,25
R49 100 1/4W 2% C114 0.01uF GND CLK0
U1914 74AC174
BOH SH 12,13,15,22
R32 100 1/4W 2% C2 0.01uF GND
BOV SH 12,13
R31 100 1/4W 2% C1 0.01uF GND
FLD SH 6
R47 100 1/4W 2% C108 0.01uF GND
SH 18 CLK8
R97 100 1/4W 2% C240 0.01uF GND
SH 15 VDML(0:7)
SH 15 VDMC(0:7)
SH 13,15 KDRM(0:7)
SH 18 OH
SH 18 OV
SH 18 FID
R92 10K 1/4W 2% +5V
+5V

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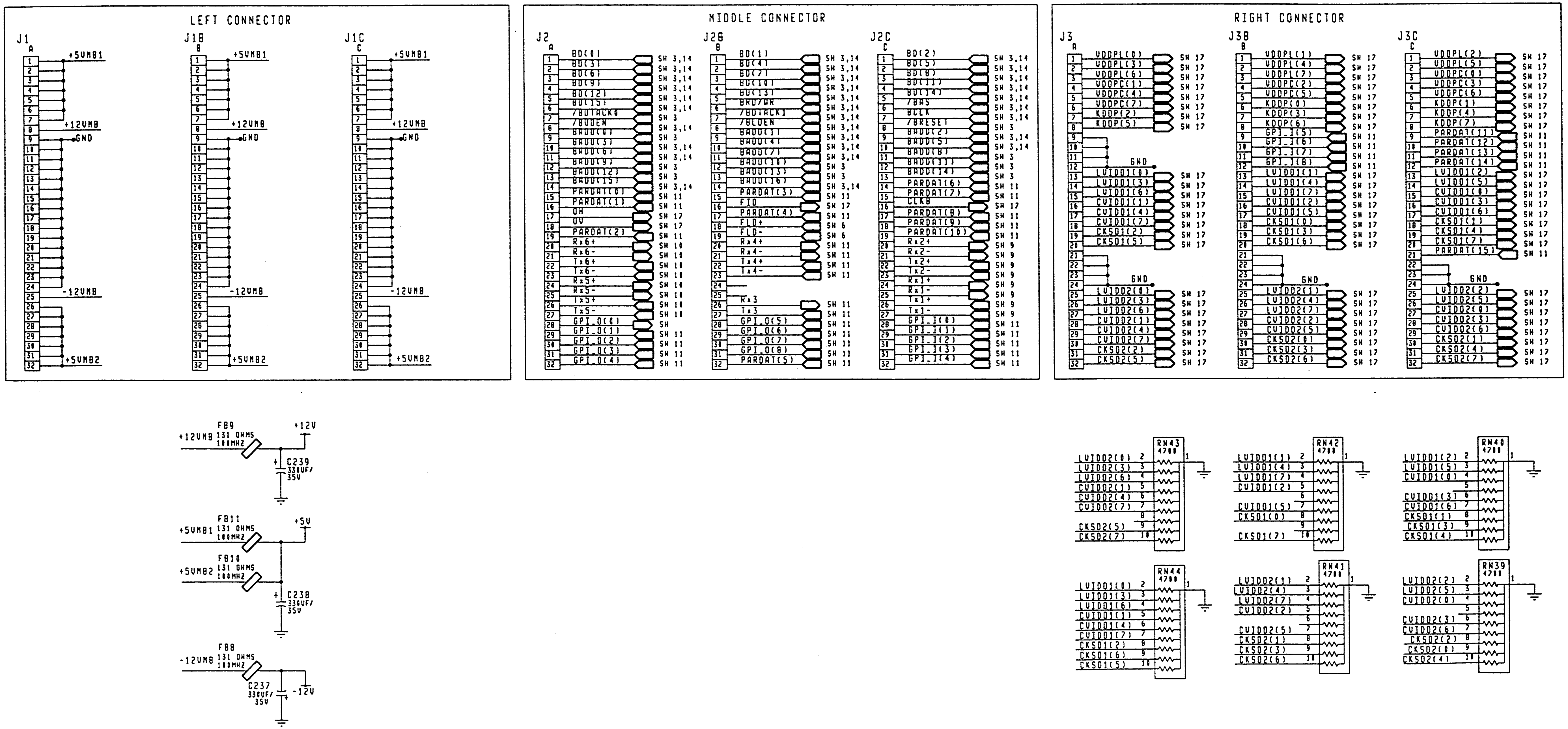
SCHEMATIC DIAGRAM
FRAME CONTROL PROCESSOR
VIDEO BUS INTERFACE

SIZE D DRAWING NO. 10-064700-03 A1
SCALE: NONE SHEET 17 OF 26

SEE SHEET 1 FOR REVISIONS



LEFT CONNECTOR
J1 A
+5VMB1
+12VMB
GND
-12VMB
+5VMB2
J1B B
+5VMB1
+12VMB
GND
-12VMB
+5VMB2
J1C C
+5VMB1
+12VMB
GND
-12VMB
+5VMB2
MIDDLE CONNECTOR
J2 A
1 BD(0) SH 3,14
2 BD(3) SH 3,14
3 BD(6) SH 3,14
4 BD(9) SH 3,14
5 BD(12) SH 3,14
6 BD(15) SH 3,14
7 /BDTACK0 SH 3
8 /BDDEN SH 3,14
9 BADD(0) SH 3
10 BADD(3) SH 3,14
11 BADD(6) SH 3,14
12 BADD(9) SH 3
13 BADD(12) SH 3
14 BADD(15) SH 3,14
15 PARDAT(0) SH 11
16 PARDAT(1) SH 11
17 VH SH 17
18 VV SH 17
19 PARDAT(2) SH 11
20 Rx6+ SH 10
21 Rx6- SH 10
22 Tx6+ SH 10
23 Tx6- SH 10
24 Rx5+ SH 10
25 Rx5- SH 10
26 Tx5+ SH 10
27 Tx5- SH 10
28 GPI_O(0) SH
29 GPI_O(1) SH 11
30 GPI_O(2) SH 11
31 GPI_O(3) SH 11
32 GPI_O(4) SH 11
J2B B
1 BD(1) SH 3,14
2 BD(4) SH 3,14
3 BD(7) SH 3,14
4 BD(10) SH 3,14
5 BD(13) SH 3,14
6 BRD/WR SH 3,14
7 /BDTACK1 SH 3,14
8 /BLDEN SH 3,14
9 BADD(1) SH 3,14
10 BADD(4) SH 3,14
11 BADD(7) SH 3,14
12 BADD(10) SH 3
13 BADD(13) SH 3
14 BADD(16) SH 3,14
15 PARDAT(3) SH 11
16 FID SH 17
17 PARDAT(4) SH 11
18 FLD+ SH 6
19 FLD- SH 6
20 Rx4+ SH 11
21 Rx4- SH 11
22 Tx4+ SH 11
23 Tx4- SH 11
26 Rx3 SH 11
27 Tx3 SH 11
28 GPI_O(5) SH 11
29 GPI_O(6) SH 11
30 GPI_O(7) SH 11
31 GPI_O(8) SH 11
32 PARDAT(5) SH 11
J2C C
1 BD(2) SH 3,14
2 BD(5) SH 3,14
3 BD(8) SH 3,14
4 BD(11) SH 3,14
5 BD(14) SH 3,14
6 /BAS SH 3,14
7 BCLK SH 3,14
8 /BRESET SH 3
9 BADD(2) SH 3,14
10 BADD(5) SH 3,14
11 BADD(8) SH 3
12 BADD(11) SH 3
13 BADD(14) SH 3
14 PARDAT(6) SH 11
15 PARDAT(7) SH 11
16 CLKB SH 17
17 PARDAT(8) SH 11
18 PARDAT(9) SH 11
19 PARDAT(10) SH 11
20 Rx2+ SH 9
21 Rx2- SH 9
22 Tx2+ SH 9
23 Tx2- SH 9
24 Rx1+ SH 9
25 Rx1- SH 9
26 Tx1+ SH 9
27 Tx1- SH 9
28 GPI_I(0) SH 11
29 GPI_I(1) SH 11
30 GPI_I(2) SH 11
31 GPI_I(3) SH 11
32 GPI_I(4) SH 11
RIGHT CONNECTOR
J3 A
1 VDOPL(0) SH 17
2 VDOPL(3) SH 17
3 VDOPL(6) SH 17
4 VDOPC(1) SH 17
5 VDOPC(4) SH 17
6 VDOPC(7) SH 17
7 KDOP(2) SH 17
8 KDOP(5) SH 17
GND
13 LVIDO1(0) SH 17
14 LVIDO1(3) SH 17
15 LVIDO1(6) SH 17
16 CVIDO1(1) SH 17
17 CVIDO1(4) SH 17
18 CVIDO1(7) SH 17
19 CKSO1(2) SH 17
20 CKSO1(5) SH 17
GND
25 LVIDO2(0) SH 17
26 LVIDO2(3) SH 17
27 LVIDO2(6) SH 17
28 CVIDO2(1) SH 17
29 CVIDO2(4) SH 17
30 CVIDO2(7) SH 17
31 CKSO2(2) SH 17
32 CKSO2(5) SH 17
J3B B
1 VDOPL(1) SH 17
2 VDOPL(4) SH 17
3 VDOPL(7) SH 17
4 VDOPC(2) SH 17
5 VDOPC(5) SH 17
6 KDOP(0) SH 17
7 KDOP(3) SH 17
8 KDOP(6) SH 17
9 GPI_I(5) SH 11
10 GPI_I(6) SH 11
11 GPI_I(7) SH 11
12 GPI_I(8) SH 11
13 LVIDO1(1) SH 17
14 LVIDO1(4) SH 17
15 LVIDO1(7) SH 17
16 CVIDO1(2) SH 17
17 CVIDO1(5) SH 17
18 CKSO1(0) SH 17
19 CKSO1(3) SH 17
20 CKSO1(6) SH 17
GND
25 LVIDO2(1) SH 17
26 LVIDO2(4) SH 17
27 LVIDO2(7) SH 17
28 CVIDO2(2) SH 17
29 CVIDO2(5) SH 17
30 CKSO2(0) SH 17
31 CKSO2(3) SH 17
32 CKSO2(6) SH 17
J3C C
1 VDOPL(2) SH 17
2 VDOPL(5) SH 17
3 VDOPC(0) SH 17
4 VDOPC(3) SH 17
5 VDOPC(6) SH 17
6 KDOP(1) SH 17
7 KDOP(4) SH 17
8 KDOP(7) SH 17
9 PARDAT(11) SH 11
10 PARDAT(12) SH 11
11 PARDAT(13) SH 11
12 PARDAT(14) SH 11
13 LVIDO1(2) SH 17
14 LVIDO1(5) SH 17
15 CVIDO1(0) SH 17
16 CVIDO1(3) SH 17
17 CVIDO1(6) SH 17
18 CKSO1(1) SH 17
19 CKSO1(4) SH 17
20 CKSO1(7) SH 17
21 PARDAT(15) SH 11
GND
25 LVIDO2(2) SH 17
26 LVIDO2(5) SH 17
27 CVIDO2(0) SH 17
28 CVIDO2(3) SH 17
29 CVIDO2(6) SH 17
30 CKSO2(1) SH 17
31 CKSO2(4) SH 17
32 CKSO2(7) SH 17
FB9 131 OHMS 100MHZ
+12VMB
+12V
C239 330UF/ 35V
FB11 131 OHMS 100MHZ
+5VMB1
+5V
FB10 131 OHMS 100MHZ
+5VMB2
C238 330UF/ 35V
FB8 131 OHMS 100MHZ
-12VMB
C237 330UF/ 35V
-12V
RN43 4700
LVIDO2(0) 2
LVIDO2(3) 3
LVIDO2(6) 4
CVIDO2(1) 5
CVIDO2(4) 6
CVIDO2(7) 7
8
CKSO2(5) 9
CKSO2(7) 10
1
RN42 4700
LVIDO1(1) 2
LVIDO1(4) 3
LVIDO1(7) 4
CVIDO1(2) 5
6
CVIDO1(5) 7
CKSO1(0) 8
9
CKSO1(7) 10
1
RN40 4700
LVIDO1(2) 2
LVIDO1(5) 3
CVIDO1(0) 4
5
CVIDO1(3) 6
CVIDO1(6) 7
CKSO1(1) 8
CKSO1(3) 9
CKSO1(4) 10
1
RN44 4700
LVIDO1(0) 2
LVIDO1(3) 3
LVIDO1(6) 4
CVIDO1(1) 5
CVIDO1(4) 6
CVIDO1(7) 7
CKSO1(2) 8
CKSO1(6) 9
CKSO1(5) 10
1
RN41 4700
LVIDO2(1) 2
LVIDO2(4) 3
LVIDO2(7) 4
CVIDO2(2) 5
6
CVIDO2(5) 7
CKSO2(1) 8
CKSO2(3) 9
CKSO2(6) 10
1
RN39 4700
LVIDO2(2) 2
LVIDO2(5) 3
CVIDO2(0) 4
5
CVIDO2(3) 6
CVIDO2(6) 7
CKSO2(2) 8
CKSO2(0) 9
CKSO2(4) 10
1

Grass Valley Group®

SCHEMATIC DIAGRAM
FRAME CONTROL PROCESSOR
MOTHER BOARD CONNECTORS

SIZE D | DRAWING NO. 10-064700-03 | A1

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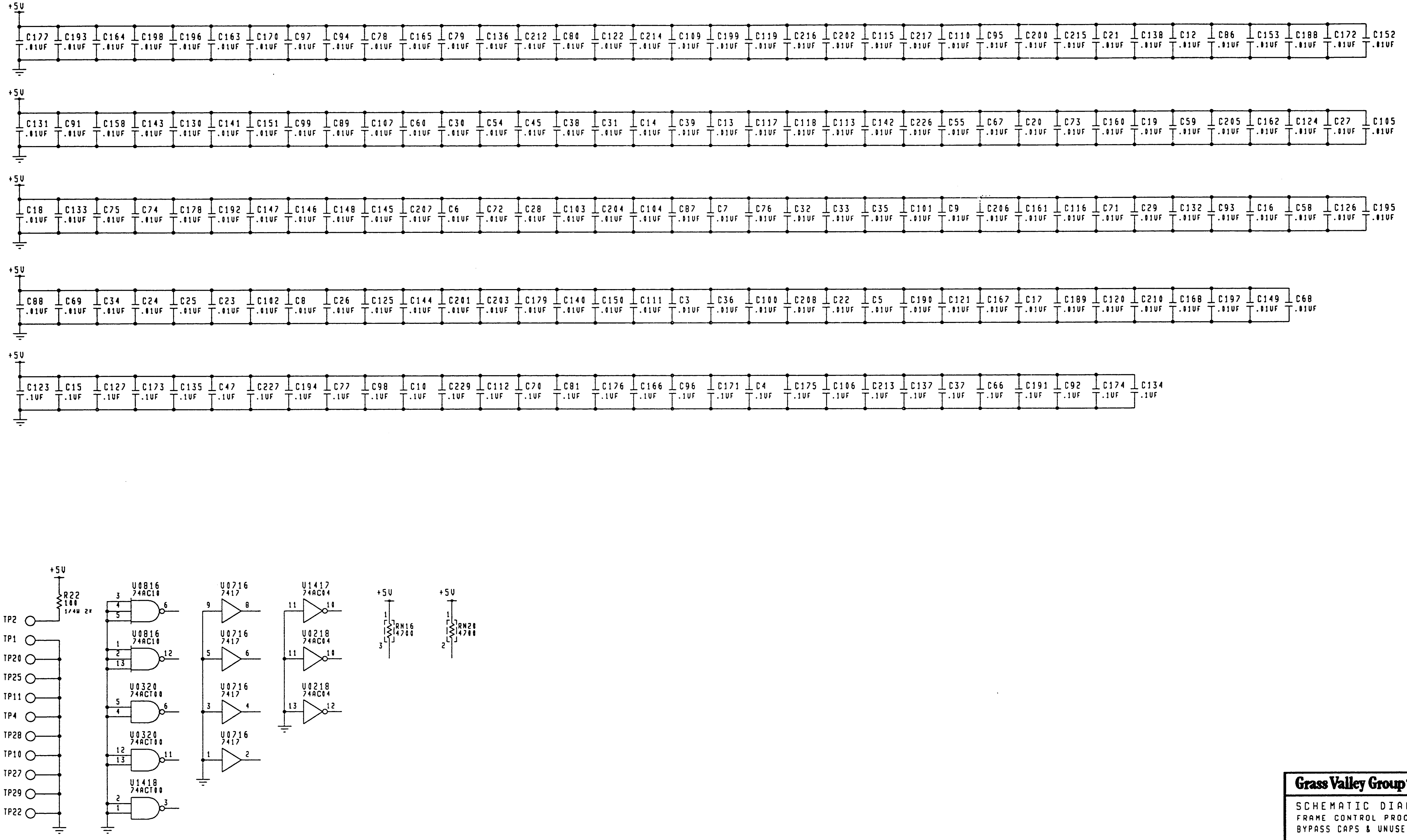

+5V
C177 .01UF
C193 .01UF
C164 .01UF
C198 .01UF
C196 .01UF
C163 .01UF
C170 .01UF
C97 .01UF
C94 .01UF
C78 .01UF
C165 .01UF
C79 .01UF
C136 .01UF
C212 .01UF
C80 .01UF
C122 .01UF
C214 .01UF
C109 .01UF
C199 .01UF
C119 .01UF
C216 .01UF
C202 .01UF
C115 .01UF
C217 .01UF
C110 .01UF
C95 .01UF
C200 .01UF
C215 .01UF
C21 .01UF
C138 .01UF
C12 .01UF
C86 .01UF
C153 .01UF
C188 .01UF
C172 .01UF
C152 .01UF
+5V
C131 .01UF
C91 .01UF
C158 .01UF
C143 .01UF
C130 .01UF
C141 .01UF
C151 .01UF
C99 .01UF
C89 .01UF
C107 .01UF
C60 .01UF
C30 .01UF
C54 .01UF
C45 .01UF
C38 .01UF
C31 .01UF
C14 .01UF
C39 .01UF
C13 .01UF
C117 .01UF
C118 .01UF
C113 .01UF
C142 .01UF
C226 .01UF
C55 .01UF
C67 .01UF
C20 .01UF
C73 .01UF
C160 .01UF
C19 .01UF
C59 .01UF
C205 .01UF
C162 .01UF
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C105 .01UF
+5V
C18 .01UF
C133 .01UF
C75 .01UF
C74 .01UF
C178 .01UF
C192 .01UF
C147 .01UF
C146 .01UF
C148 .01UF
C145 .01UF
C207 .01UF
C6 .01UF
C72 .01UF
C28 .01UF
C103 .01UF
C204 .01UF
C104 .01UF
C87 .01UF
C7 .01UF
C76 .01UF
C32 .01UF
C33 .01UF
C35 .01UF
C101 .01UF
C9 .01UF
C206 .01UF
C161 .01UF
C116 .01UF
C71 .01UF
C29 .01UF
C132 .01UF
C93 .01UF
C16 .01UF
C58 .01UF
C126 .01UF
C195 .01UF
+5V
C88 .01UF
C69 .01UF
C34 .01UF
C24 .01UF
C25 .01UF
C23 .01UF
C102 .01UF
C8 .01UF
C26 .01UF
C125 .01UF
C144 .01UF
C201 .01UF
C203 .01UF
C179 .01UF
C140 .01UF
C150 .01UF
C111 .01UF
C3 .01UF
C36 .01UF
C100 .01UF
C208 .01UF
C22 .01UF
C5 .01UF
C190 .01UF
C121 .01UF
C167 .01UF
C17 .01UF
C189 .01UF
C120 .01UF
C210 .01UF
C168 .01UF
C197 .01UF
C149 .01UF
C68 .01UF
+5V
C123 .1UF
C15 .1UF
C127 .1UF
C173 .1UF
C135 .1UF
C47 .1UF
C227 .1UF
C194 .1UF
C77 .1UF
C98 .1UF
C10 .1UF
C229 .1UF
C112 .1UF
C70 .1UF
C81 .1UF
C176 .1UF
C166 .1UF
C96 .1UF
C171 .1UF
C4 .1UF
C175 .1UF
C106 .1UF
C213 .1UF
C137 .1UF
C37 .1UF
C66 .1UF
C191 .1UF
C92 .1UF
C174 .1UF
C134 .1UF
+5V
R22 100 1/4W 2%
TP2
TP1
TP20
TP25
TP11
TP4
TP28
TP10
TP27
TP29
TP22
U0816 74AC10
3 4 5 6
U0816 74AC10
1 2 13 12
U0320 74ACT00
5 4 6
U0320 74ACT00
12 13 11
U1418 74ACT00
2 1 3
U0716 7417
9 8
U0716 7417
5 6
U0716 7417
3 4
U0716 7417
1 2
U1417 74AC04
11 10
U0218 74AC04
11 10
U0218 74AC04
13 12
+5V
1
RN16 4700
3
+5V
1
RN20 4700
2

Grass Valley Group®

SCHEMATIC DIAGRAM
FRAME CONTROL PROCESSOR
BYPASS CAPS & UNUSED GATES

SIZE D | DRAWING NO. 10-064700-03 | A1

SCALE: NONE | SHEET 19 OF 26

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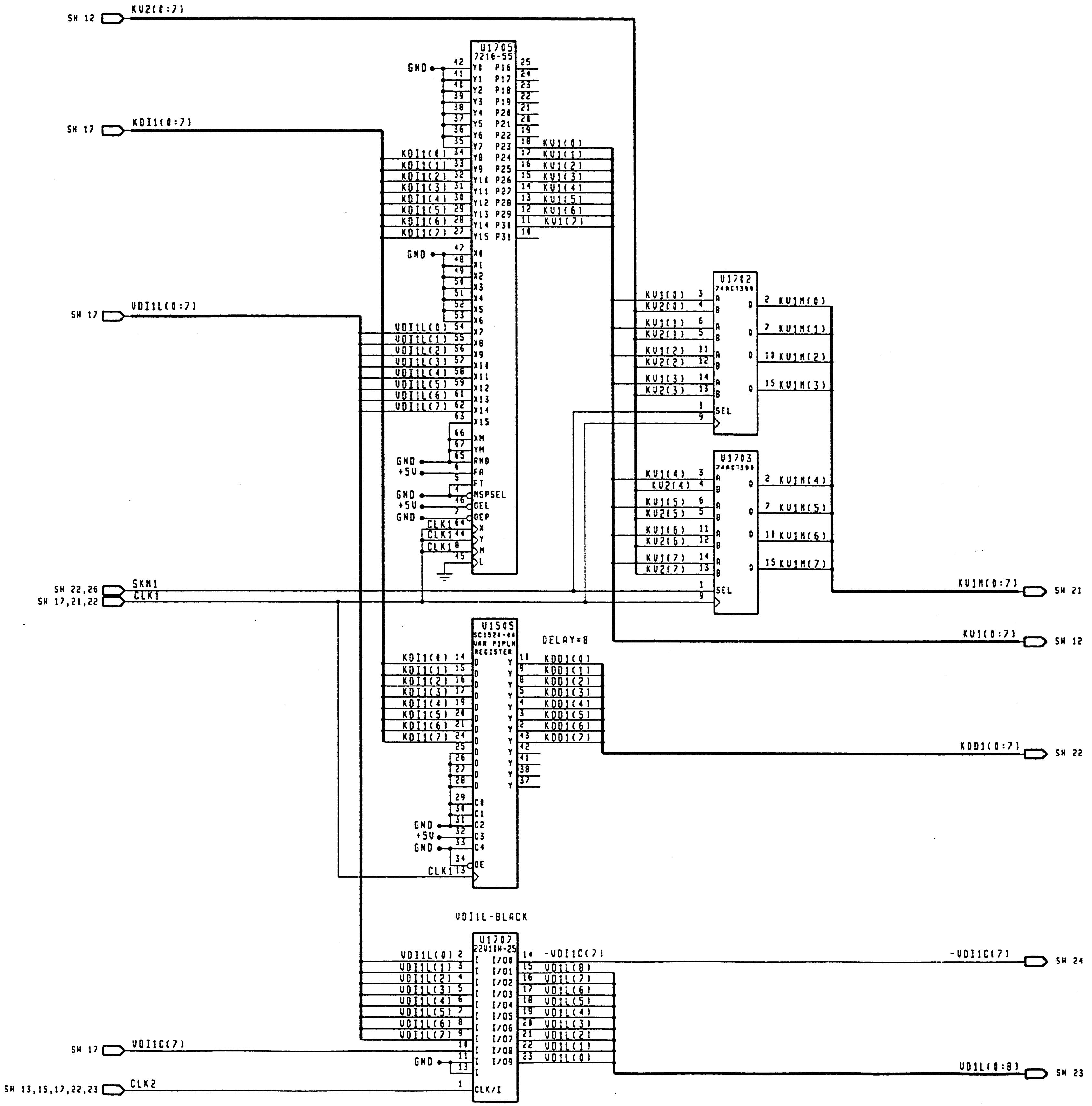
SH 12
KV2(0:7)
SH 17
KDI1(0:7)
SH 17
VDI1L(0:7)
U1705
7216-55
GND
KDI1(0)
KDI1(1)
KDI1(2)
KDI1(3)
KDI1(4)
KDI1(5)
KDI1(6)
KDI1(7)
KV1(0)
KV1(1)
KV1(2)
KV1(3)
KV1(4)
KV1(5)
KV1(6)
KV1(7)
VDI1L(0)
VDI1L(1)
VDI1L(2)
VDI1L(3)
VDI1L(4)
VDI1L(5)
VDI1L(6)
VDI1L(7)
+5V
CLK1
U1702
74AC1399
KV1M(0)
KV1M(1)
KV1M(2)
KV1M(3)
SEL
U1703
74AC1399
KV1M(4)
KV1M(5)
KV1M(6)
KV1M(7)
SH 22,26
SKM1
SH 17,21,22
CLK1
KV1M(0:7)
SH 21
KV1(0:7)
SH 12
U1505
SC1520-00
VAR PIPLN
REGISTER
DELAY=8
KDD1(0)
KDD1(1)
KDD1(2)
KDD1(3)
KDD1(4)
KDD1(5)
KDD1(6)
KDD1(7)
KDD1(0:7)
SH 22
VDI1L-BLACK
U1707
22V10H-25
-VDI1C(7)
-VDI1C(7)
SH 24
VDI1L(8)
VDI1L(7)
VDI1L(6)
VDI1L(5)
VDI1L(4)
VDI1L(3)
VDI1L(2)
VDI1L(1)
VDI1L(0)
VDI1L(0:8)
SH 23
SH 17
VDI1C(7)
SH 13,15,17,22,23
CLK2
CLK/I

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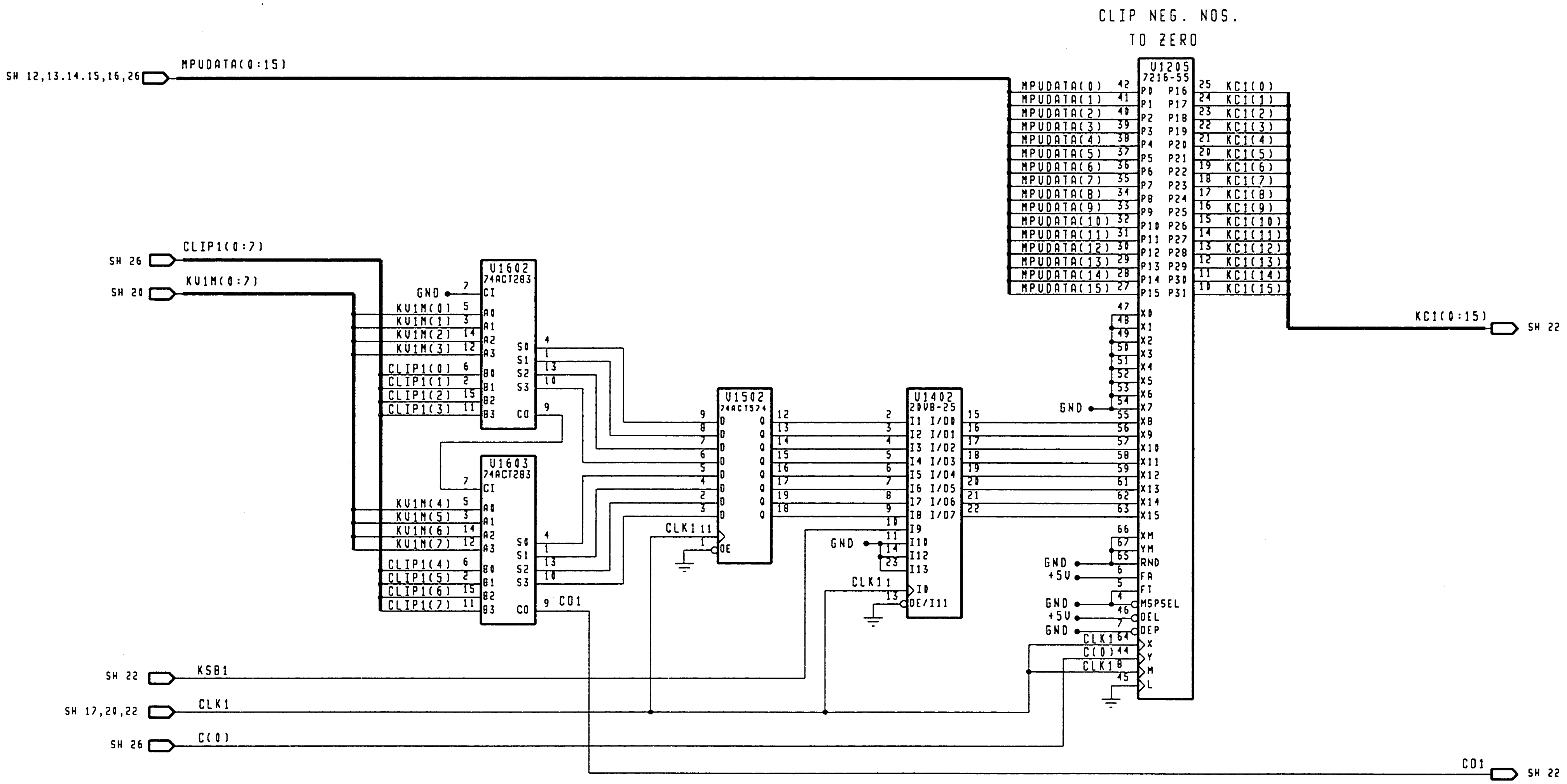
SCHEMATIC DIAGRAM
FRAME CONTROL PROCESSOR
LUMA VIDEO, CHANNEL 1

SIZE D DRAWING NO. 10-064700-03 A1

SCALE: NONE SHEET 20 OF 26

SEE SHEET 1 FOR REVISIONS


CLIP NEG. NOS.
TO ZERO
SH 12,13,14,15,16,26
MPUDATA(0:15)
U1205
7216-55
MPUDATA(0) … MPUDATA(15)
P0 … P15
P16 … P31
KC1(0) … KC1(15)
KC1(0:15)
SH 22
X0 … X15
XM
YM
RND
FA
FT
MSPSEL
DEL
DEP
X
Y
M
L
GND
+5V
CLK1
C(0)
SH 26
CLIP1(0:7)
SH 20
KU1M(0:7)
U1602
74ACT283
U1603
74ACT283
CI
A0
A1
A2
A3
B0
B1
B2
B3
S0
S1
S2
S3
CO
KU1M(0)
KU1M(1)
KU1M(2)
KU1M(3)
KU1M(4)
KU1M(5)
KU1M(6)
KU1M(7)
CLIP1(0)
CLIP1(1)
CLIP1(2)
CLIP1(3)
CLIP1(4)
CLIP1(5)
CLIP1(6)
CLIP1(7)
CO1
U1502
74ACT574
D
Q
OE
U1402
20V8-25
I1 I/O0
I2 I/O1
I3 I/O2
I4 I/O3
I5 I/O4
I6 I/O5
I7 I/O6
I8 I/O7
I9
I10
I12
I13
I0
OE/I11
SH 22
KSB1
SH 17,20,22
CLK1
SH 26
C(0)
CO1
SH 22

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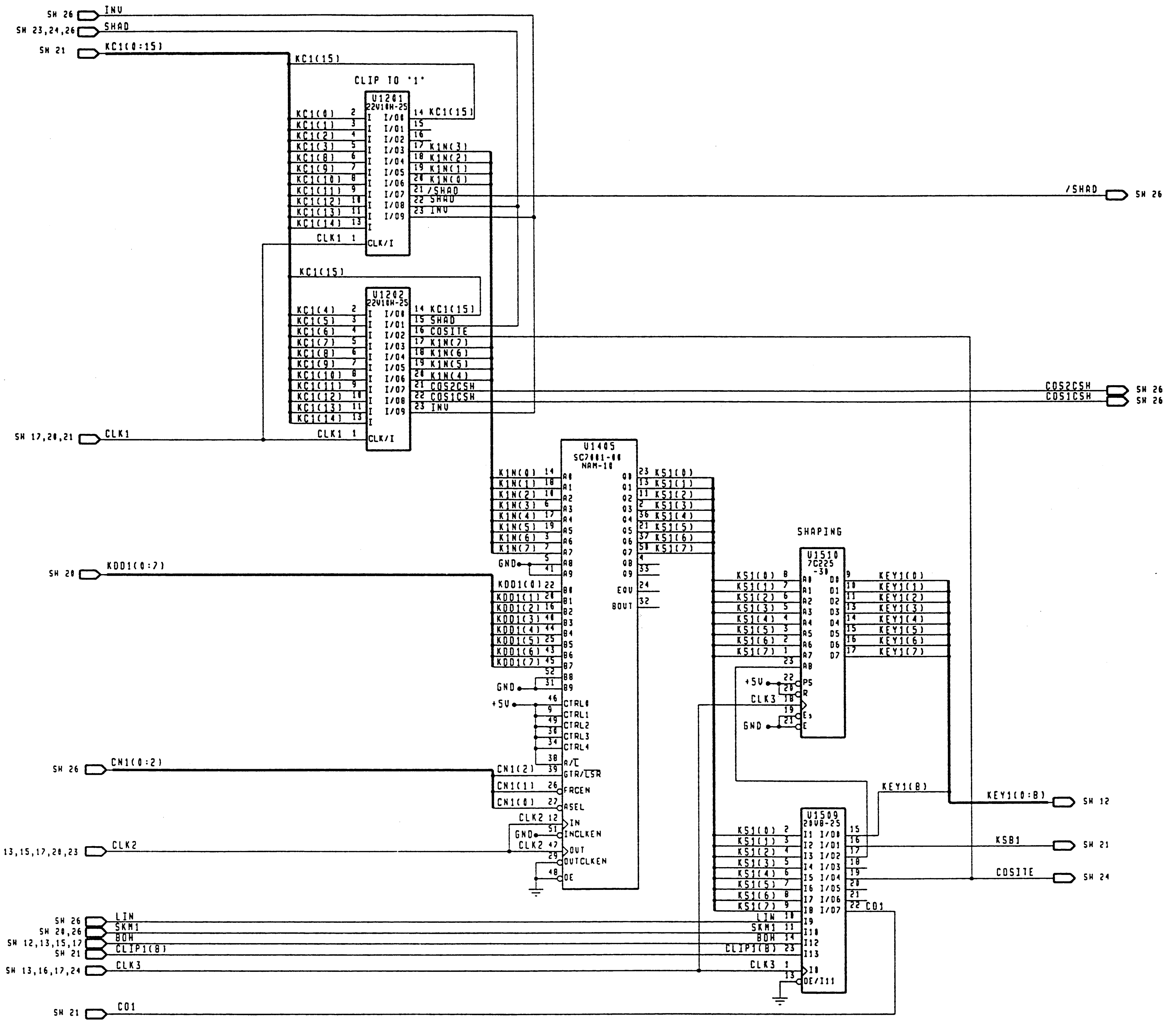
SCHEMATIC DIAGRAM
FRAME CONTROL PROCESSOR
CLIP & GAIN, CHANNEL 1

SIZE D DRAWING NO. 10-064700-03 A1
SCALE: NONE SHEET 21 OF 26

SEE SHEET 1 FOR REVISIONS



SH 26 INV
SH 23,24,26 SHAD
SH 21 KC1(0:15)
KC1(15)
CLIP TO '1'
U1201
22V10H-25
KC1(0) KC1(1) KC1(2) KC1(3) KC1(8) KC1(9) KC1(10) KC1(12) KC1(13) KC1(14)
CLK1
CLK/I
I/O0 I/O1 I/O2 I/O3 I/O4 I/O5 I/O6 I/O7 I/O8 I/O9
KC1(15)
K1N(3) K1N(2) K1N(1) K1N(0)
/SHAD
SHAD
INV
/SHAD SH 26
U1202
22V10H-25
KC1(4) KC1(5) KC1(6) KC1(7) KC1(8) KC1(9) KC1(10) KC1(11) KC1(12) KC1(13) KC1(14)
KC1(15)
SHAD
COSITE
K1N(7) K1N(6) K1N(5) K1N(4)
COS2CSH
COS1CSH
INV
COS2CSH SH 26
COS1CSH SH 26
SH 17,20,21 CLK1
U1405
SC7001-00
NAM-10
K1N(0) K1N(1) K1N(2) K1N(3) K1N(4) K1N(5) K1N(6) K1N(7)
A0 A1 A2 A3 A4 A5 A6 A7 A8 A9
GND
Q0 Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Q9
EOU
BOUT
KS1(0) KS1(1) KS1(2) KS1(3) KS1(4) KS1(5) KS1(6) KS1(7)
SH 20 KDD1(0:7)
KDD1(0) KDD1(1) KDD1(2) KDD1(3) KDD1(4) KDD1(5) KDD1(6) KDD1(7)
B0 B1 B2 B3 B4 B5 B6 B7 B8 B9
GND
+5V
CTRL0 CTRL1 CTRL2 CTRL3 CTRL4
A/C
GTR/LSR
FRCEN
ASEL
IN
INCLKEN
OUT
OUTCLKEN
OE
SH 26 CN1(0:2)
CN1(2) CN1(1) CN1(0)
CLK2
GND
CLK2
SH 13,15,17,20,23 CLK2
SHAPING
U1510
7C225
-30
KS1(0) KS1(1) KS1(2) KS1(3) KS1(4) KS1(5) KS1(6) KS1(7)
A0 A1 A2 A3 A4 A5 A6 A7 A8
D0 D1 D2 D3 D4 D5 D6 D7
PS
R
Es
E
+5V
CLK3
GND
KEY1(0) KEY1(1) KEY1(2) KEY1(3) KEY1(4) KEY1(5) KEY1(6) KEY1(7)
KEY1(8)
KEY1(0:8) SH 12
U1509
20V8-25
KS1(0) KS1(1) KS1(2) KS1(3) KS1(4) KS1(5) KS1(6) KS1(7)
I1 I2 I3 I4 I5 I6 I7 I8 I9 I10 I12 I13
I/O0 I/O1 I/O2 I/O3 I/O4 I/O5 I/O6 I/O7
OE/I11
LIN SKM1 BOH CLIP1(8) CLK3
KSB1 SH 21
COSITE SH 24
CO1
SH 26 LIN
SH 20,26 SKM1
SH 12,13,15,17 BOH
SH 21 CLIP1(8)
SH 13,16,17,24 CLK3
SH 21 CO1

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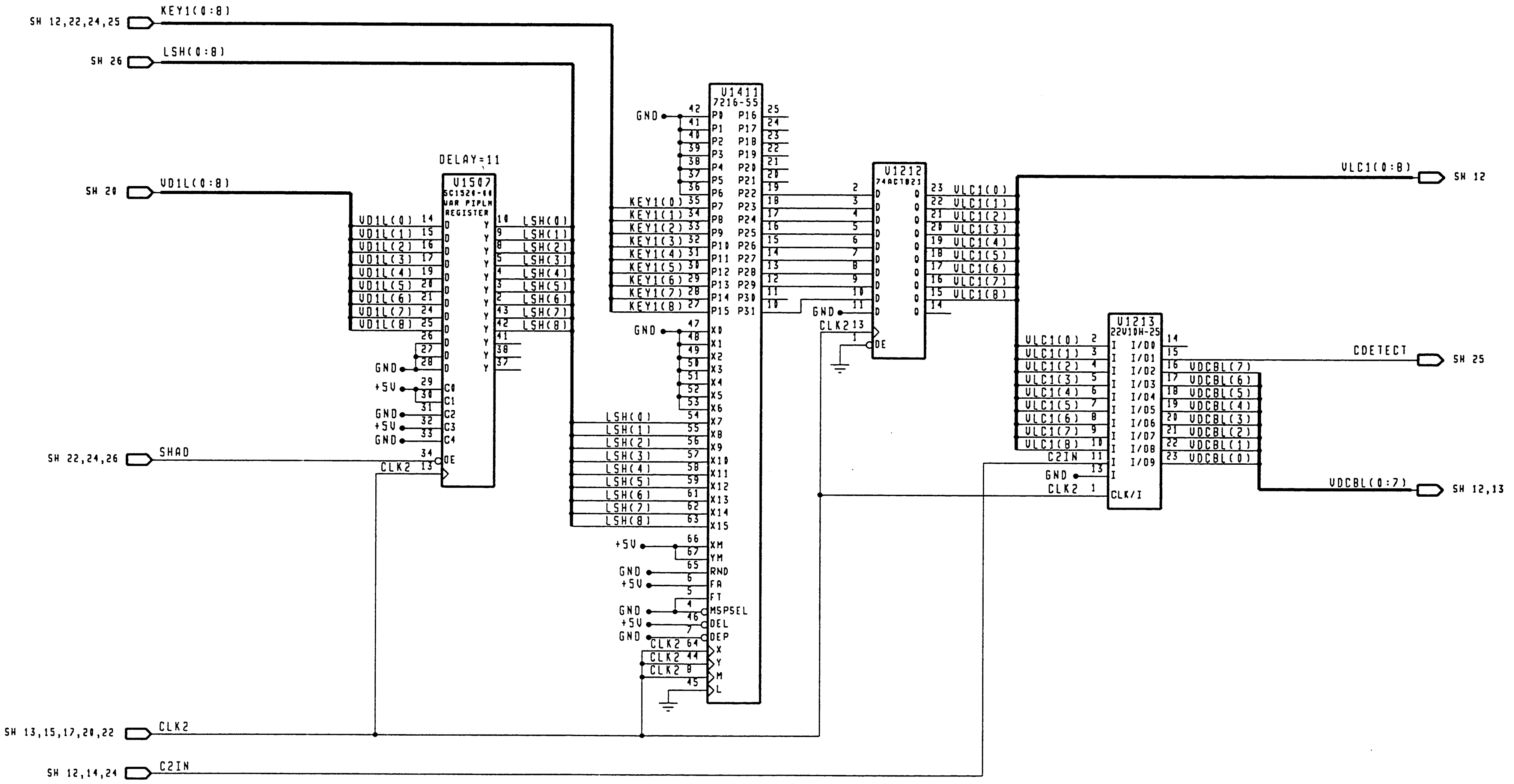
SCHEMATIC DIAGRAM
FRAME CONTROL PROCESSOR
CLIP & GAIN, CHANNEL 1
CONT.

SIZE	DRAWING NO.	
D	10-064700-03	A1
SCALE: NONE	SHEET 22 OF 26	

SEE SHEET 1 FOR REVISIONS


SH 12,22,24,25
KEY1(0:8)
SH 26
LSH(0:8)
SH 20
VD1L(0:8)
DELAY=11
U1507
SC1520-00
VAR PIPLN
REGISTER
VD1L(0)
VD1L(1)
VD1L(2)
VD1L(3)
VD1L(4)
VD1L(5)
VD1L(6)
VD1L(7)
VD1L(8)
LSH(0)
LSH(1)
LSH(2)
LSH(3)
LSH(4)
LSH(5)
LSH(6)
LSH(7)
LSH(8)
GND
+5V
SH 22,24,26
SHAD
CLK2
U1411
7216-55
KEY1(0)
KEY1(1)
KEY1(2)
KEY1(3)
KEY1(4)
KEY1(5)
KEY1(6)
KEY1(7)
KEY1(8)
RND
FA
FT
MSPSEL
OEL
OEP
U1212
74ACT821
CLK2
GND
VLC1(0)
VLC1(1)
VLC1(2)
VLC1(3)
VLC1(4)
VLC1(5)
VLC1(6)
VLC1(7)
VLC1(8)
VLC1(0:8)
SH 12
U1213
22V10H-25
CLK/I
C2IN
VDCBL(7)
VDCBL(6)
VDCBL(5)
VDCBL(4)
VDCBL(3)
VDCBL(2)
VDCBL(1)
VDCBL(0)
CDETECT
SH 25
VDCBL(0:7)
SH 12,13
SH 13,15,17,20,22
CLK2
SH 12,14,24
C2IN

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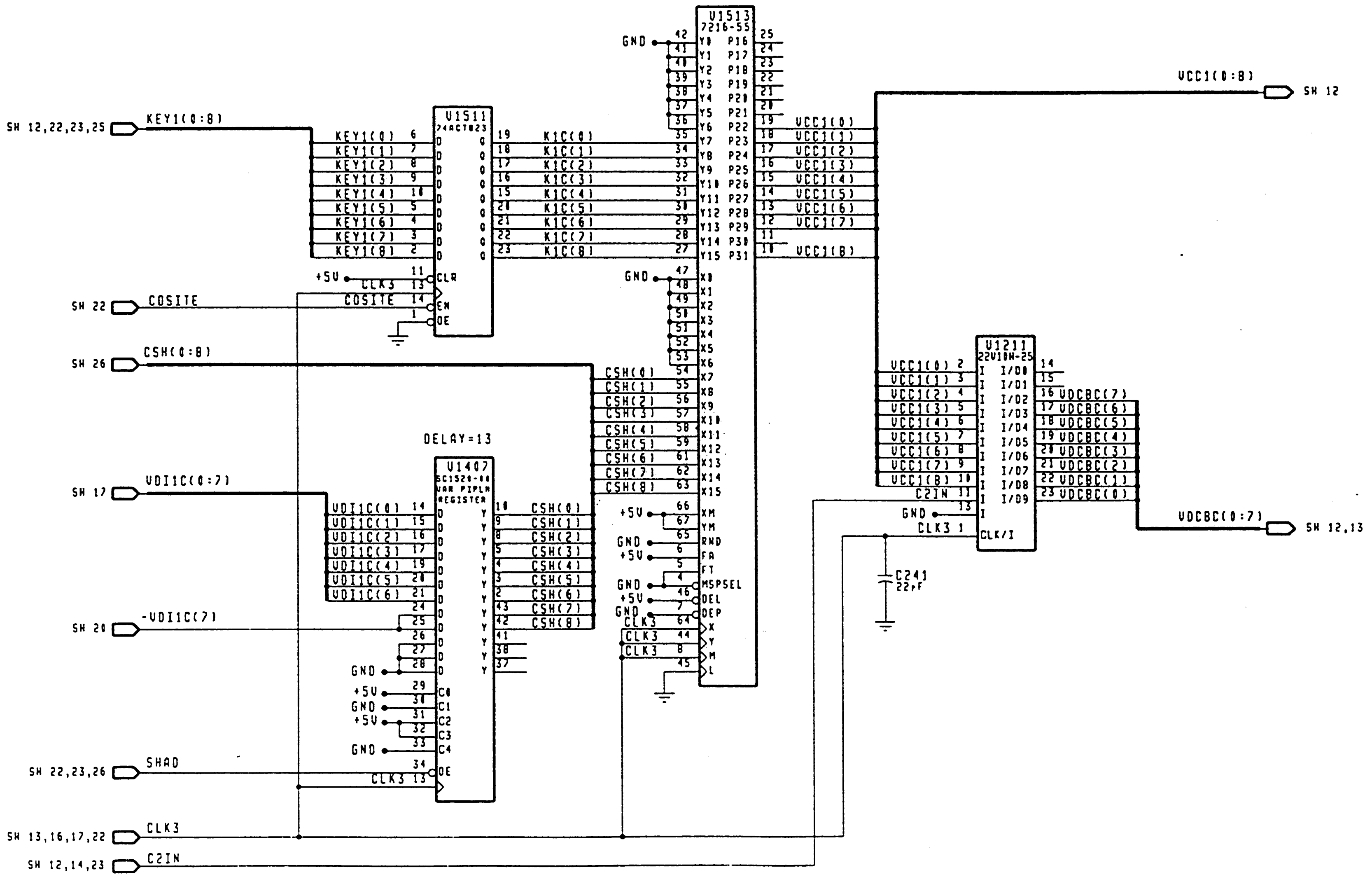
SCHEMATIC DIAGRAM
FRAME CONTROL PROCESSOR
LUMA VIDEO OUT

SIZE	DRAWING NO.	
D	10-064700-03	A1
SCALE: NONE	SHEET 23 OF 26	

SEE SHEET 1 FOR REVISIONS


SH 12,22,23,25
KEY1(0:8)
U1511
74ACT823
KEY1(0)
KEY1(8)
K1C(0)
K1C(8)
CLR
EN
OE
+5V
CLK3
SH 22
COSITE
SH 26
CSH(0:8)
DELAY=13
U1407
SC1520-00
VAR PIPLN
REGISTER
SH 17
VDI1C(0:7)
VDI1C(0)
VDI1C(6)
SH 20
-VDI1C(7)
CSH(0)
CSH(8)
GND
+5V
SH 22,23,26
SHAD
SH 13,16,17,22
CLK3
SH 12,14,23
C2IN
U1513
7216-55
GND
RND
FA
FT
MSPSEL
OEL
OEP
VCC1(0)
VCC1(8)
VCC1(0:8)
SH 12
U1211
22V10H-25
C2IN
CLK/I
C241
22pF
VDCBC(7)
VDCBC(0)
VDCBC(0:7)
SH 12,13

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SCHEMATIC DIAGRAM
FRAME CONTROL PROCESSOR

SIZE	DRAWING NO.	
D	10-064700-03	A1
SCALE: NONE	SHEET 24 OF 26	

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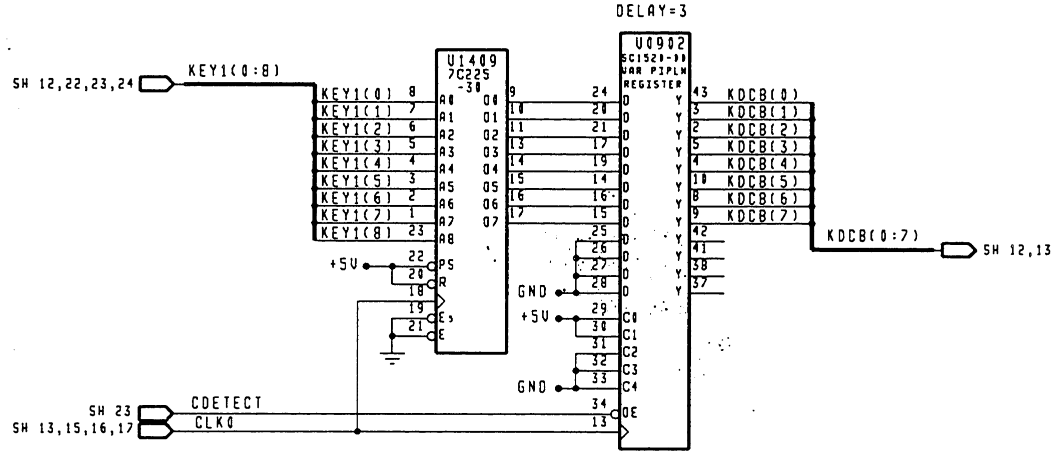
DELAY=3
SH 12,22,23,24
KEY1(0:8)
KEY1(0)
KEY1(1)
KEY1(2)
KEY1(3)
KEY1(4)
KEY1(5)
KEY1(6)
KEY1(7)
KEY1(8)
U1409
7C225
-30
A0
A1
A2
A3
A4
A5
A6
A7
A8
O0
O1
O2
O3
O4
O5
O6
O7
PS
R
E₁
E
+5V
U0902
SC1520-00
VAR PIPLN
REGISTER
D
Y
C0
C1
C2
C3
C4
OE
GND
+5V
GND
KDCB(0)
KDCB(1)
KDCB(2)
KDCB(3)
KDCB(4)
KDCB(5)
KDCB(6)
KDCB(7)
KDCB(0:7)
SH 12,13
SH 23
CDETECT
SH 13,15,16,17
CLK0

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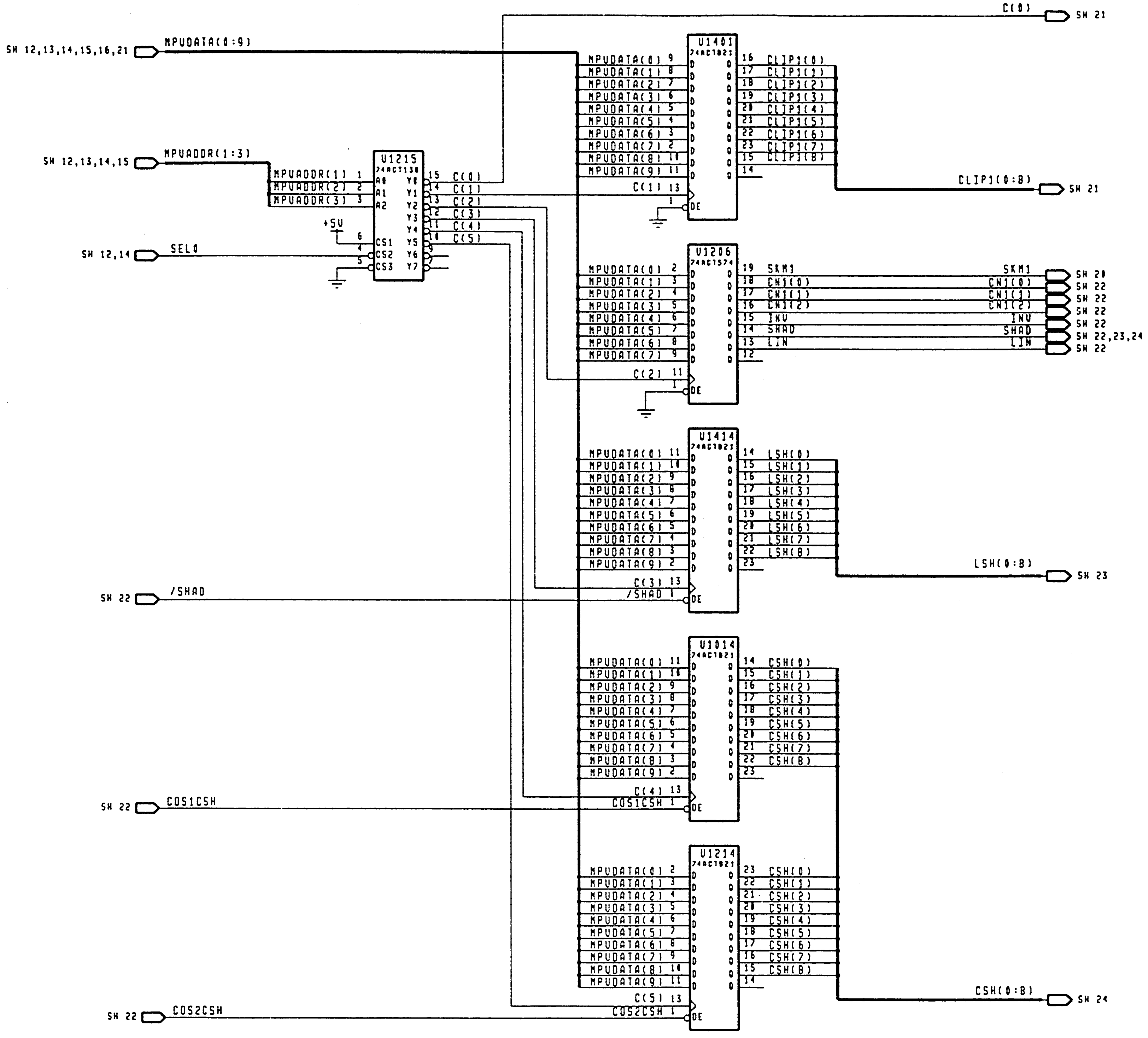
SCHEMATIC DIAGRAM
FRAME CONTROL PROCESSOR
KEY OUT

SIZE	DRAWING NO.	
D	10-064700-03	A1
SCALE: NONE	SHEET 25 OF 26	

SEE SHEET 1 FOR REVISIONS


SH 12,13,14,15,16,21
MPUDATA(0:9)
SH 12,13,14,15
MPUADDR(1:3)
MPUADDR(1) 1
MPUADDR(2) 2
MPUADDR(3) 3
U1215
74ACT138
A0
A1
A2
Y0
Y1
Y2
Y3
Y4
Y5
Y6
Y7
CS1
CS2
CS3
+5V
SH 12,14
SEL0
C(0)
C(1)
C(2)
C(3)
C(4)
C(5)
SH 21
U1403
74ACT823
CLIP1(0)
CLIP1(1)
CLIP1(2)
CLIP1(3)
CLIP1(4)
CLIP1(5)
CLIP1(6)
CLIP1(7)
CLIP1(8)
CLIP1(0:8)
OE
U1206
74ACT574
SKM1
CN1(0)
CN1(1)
CN1(2)
INV
SHAD
LIN
SH 20
SH 22
SH 22,23,24
U1414
74ACT823
LSH(0)
LSH(1)
LSH(2)
LSH(3)
LSH(4)
LSH(5)
LSH(6)
LSH(7)
LSH(8)
LSH(0:8)
SH 23
/SHAD
U1014
74ACT823
CSH(0)
CSH(1)
CSH(2)
CSH(3)
CSH(4)
CSH(5)
CSH(6)
CSH(7)
CSH(8)
COS1CSH
U1214
74ACT823
COS2CSH
CSH(0:8)
SH 24
MPUDATA(0)
MPUDATA(1)
MPUDATA(2)
MPUDATA(3)
MPUDATA(4)
MPUDATA(5)
MPUDATA(6)
MPUDATA(7)
MPUDATA(8)
MPUDATA(9)

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SCHEMATIC DIAGRAM
FRAME CONTROL PROCESSOR
CONTROL SIGNALS

SIZE	DRAWING NO.	
D	10-064700-03	A1
SCALE NONE	SHEET 26 OF 26	

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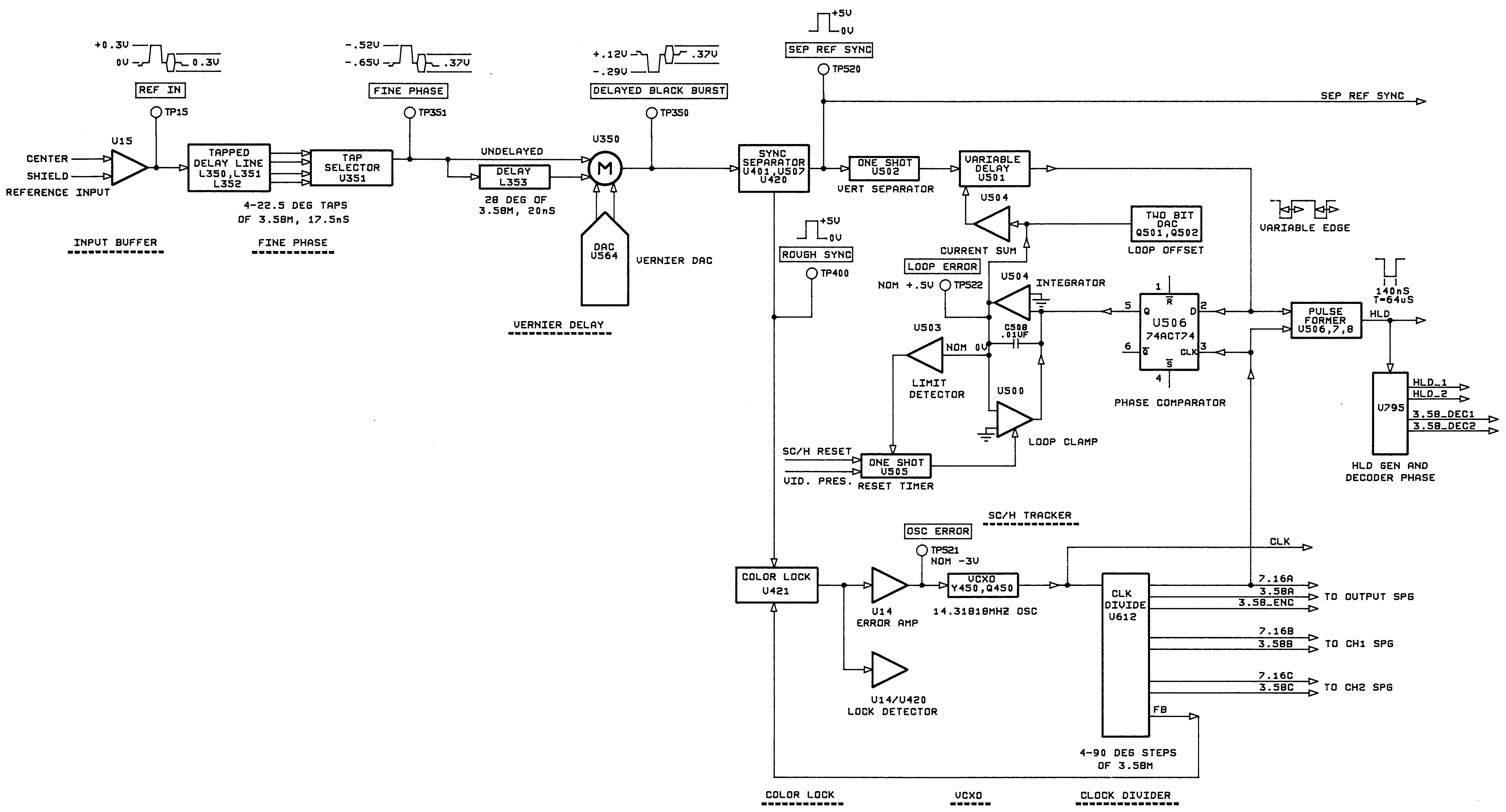
REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
A1	2200	PLUM	19JUN 1991	—	—	—	—
PILOT RUN RELEASE							
B1	2240	PLUM	19JUN 1991	—	JJJ		—
C1	2254						
D1	2399						
ISSUE UPDATES ONLY							


+0.3V
0V
0.3V
REF IN
TP15
CENTER
SHIELD
REFERENCE INPUT
U15
INPUT BUFFER
TAPPED DELAY LINE L350,L351 L352
4-22.5 DEG TAPS OF 3.58M, 17.5nS
FINE PHASE
-.52V
-.65V
.37V
FINE PHASE
TP351
TAP SELECTOR U351
UNDELAYED
DELAY L353
28 DEG OF 3.58M, 20nS
U350
M
DAC U564
VERNIER DAC
VERNIER DELAY
+.12V
-.29V
.37V
DELAYED BLACK BURST
TP350
SYNC SEPARATOR U401,U507 U420
+5V
0V
SEP REF SYNC
TP520
SEP REF SYNC
ONE SHOT U502
VERT SEPARATOR
VARIABLE DELAY U501
U504
CURRENT SUM
TWO BIT DAC Q501,Q502
LOOP OFFSET
VARIABLE EDGE
+5V
0V
ROUGH SYNC
TP400
LOOP ERROR
NOM +.5V
TP522
U504
INTEGRATOR
C508 .01UF
U503
NOM 0V
LIMIT DETECTOR
U500
LOOP CLAMP
1
R
5
Q
D
2
U506 74ACT74
6
Q̄
CLK
3
S̄
4
PHASE COMPARATOR
140nS T=64uS
PULSE FORMER U506,7,8
HLD
U795
HLD_1
HLD_2
3.58_DEC1
3.58_DEC2
HLD GEN AND DECODER PHASE
SC/H RESET
ONE SHOT U505
VID. PRES.
RESET TIMER
SC/H TRACKER
OSC ERROR
TP521
NOM -3V
CLK
COLOR LOCK U421
U14
ERROR AMP
VCXO Y450,Q450
14.31818MHZ OSC
CLK DIVIDE U612
7.16A
3.58A
3.58_ENC
TO OUTPUT SPG
7.16B
3.58B
TO CH1 SPG
7.16C
3.58C
TO CH2 SPG
FB
U14/U420
LOCK DETECTOR
4-90 DEG STEPS OF 3.58M
COLOR LOCK
VCXO
CLOCK DIVIDER

	CADNETIX
DMP-100	064602
USED ON	NEXT ASSY
APPLICATION	
DISTRIBUTION	

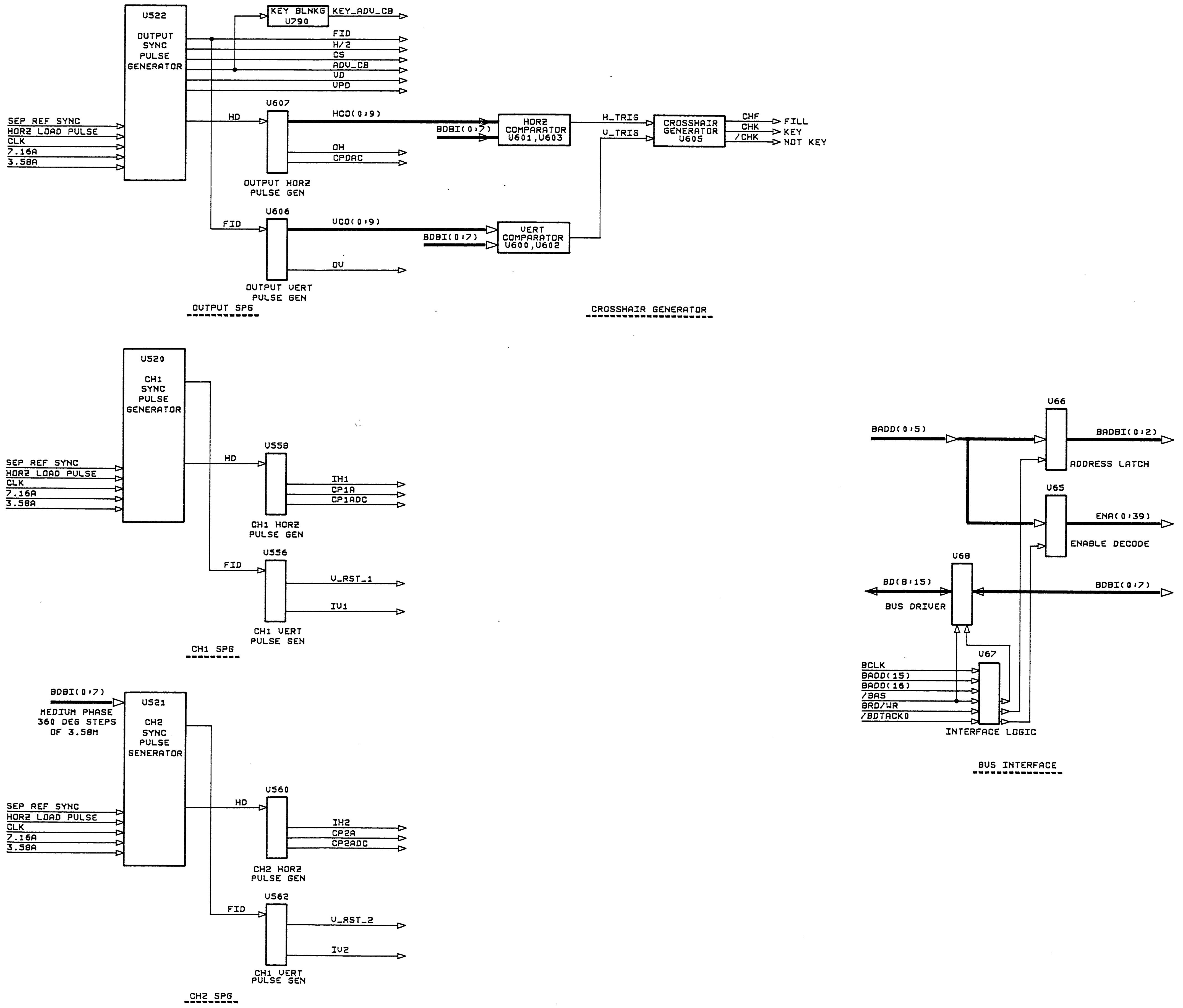
GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA
A TEKTRONIX COMPANY

DRAWN MMB/PLUM DATE 19JUN91
ENGINEER MMB
CHECKED DATE
APPROVED JJJ DATE 7-1-91
PILOT RUN RLSE DATE
ENGRG RLSE DATE

BLOCK DIAGRAM
INTERFACE MODULE
TIMING REFERENCE GENLOCK

SIZE D
DRAWING NO. 00-064702-02
REV D1
SCALE: NONE
SHEET 1 OF 4

SEE SHEET ONE FOR REVISIONS


U522
OUTPUT SYNC PULSE GENERATOR
SEP REF SYNC
HORZ LOAD PULSE
CLK
7.16A
3.58A
KEY BLNKG U790
KEY_ADV_CB
FID
H/2
CS
ADV_CB
VD
VPD
HD
U607
HCO(0:9)
OH
CPDAC
OUTPUT HORZ PULSE GEN
FID
U606
VCO(0:9)
OV
OUTPUT VERT PULSE GEN
OUTPUT SPG
BDBI(0:7)
HORZ COMPARATOR U601,U603
BDBI(0:7)
VERT COMPARATOR U600,U602
H_TRIG
V_TRIG
CROSSHAIR GENERATOR U605
CHF
CHK
/CHK
FILL
KEY
NOT KEY
CROSSHAIR GENERATOR
U520
CH1 SYNC PULSE GENERATOR
SEP REF SYNC
HORZ LOAD PULSE
CLK
7.16A
3.58A
HD
U558
IH1
CP1A
CP1ADC
CH1 HORZ PULSE GEN
FID
U556
V_RST_1
IV1
CH1 VERT PULSE GEN
CH1 SPG
BDBI(0:7)
MEDIUM PHASE 360 DEG STEPS OF 3.58M
U521
CH2 SYNC PULSE GENERATOR
SEP REF SYNC
HORZ LOAD PULSE
CLK
7.16A
3.58A
HD
U560
IH2
CP2A
CP2ADC
CH2 HORZ PULSE GEN
FID
U562
V_RST_2
IV2
CH1 VERT PULSE GEN
CH2 SPG
U66
BADD(0:5)
BADBI(0:2)
ADDRESS LATCH
U65
ENA(0:39)
ENABLE DECODE
U68
BD(8:15)
BUS DRIVER
BDBI(0:7)
U67
BCLK
BADD(15)
BADD(16)
/BAS
BRD/WR
/BDTACK0
INTERFACE LOGIC
BUS INTERFACE

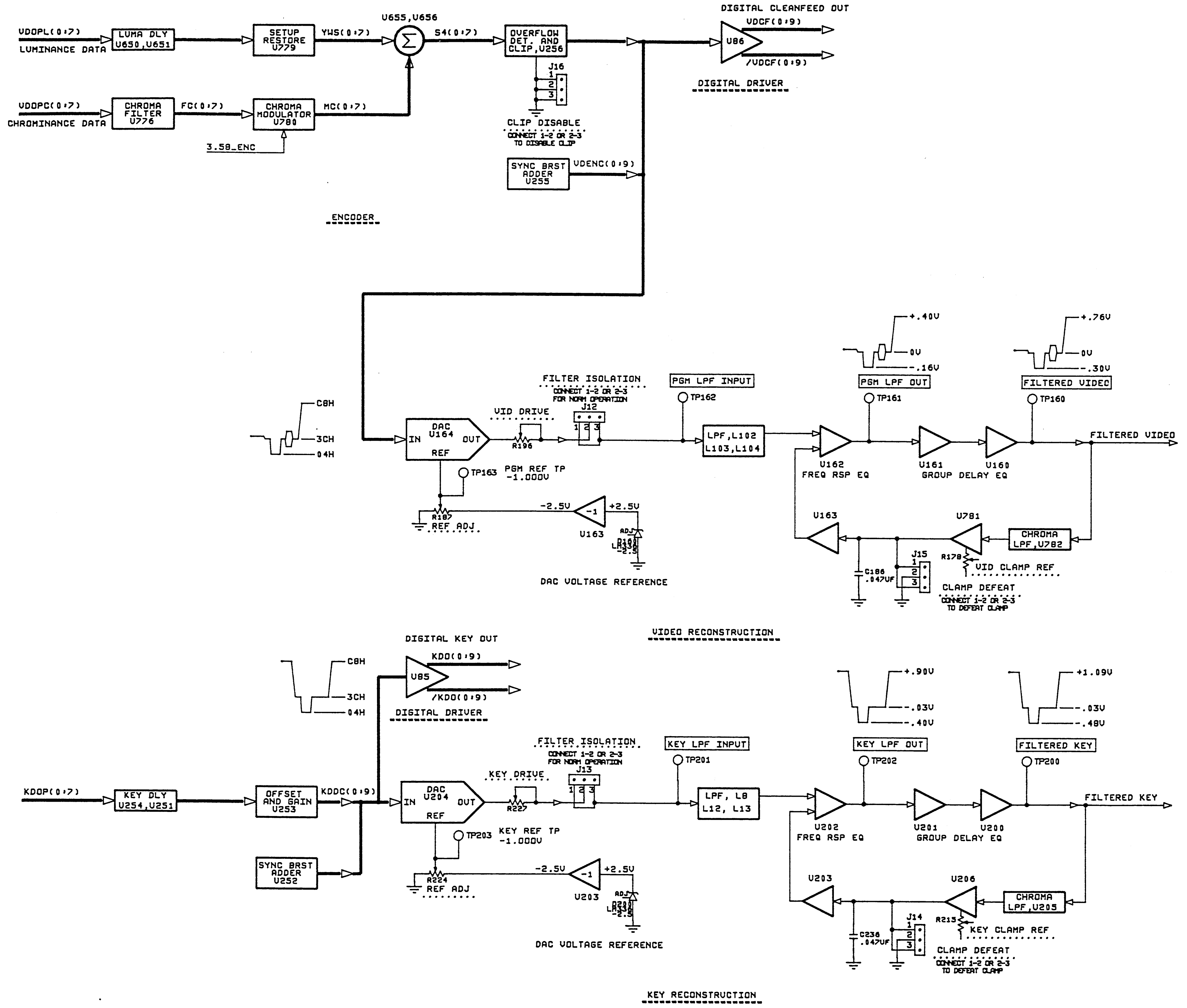
GRASS VALLEY GROUP

BLOCK DIAGRAM
INTERFACE MODULE
SYNC GENERATOR, CROSSHAIR
GENERATOR AND BUS INTERFACE

SIZE D DRAWING NO. 00-064702-02 REV D1

SCALE: NONE SHEET 2 OF 4

SEE SHEET ONE FOR REVISIONS


VDOPL(0:7)
LUMINANCE DATA
LUMA DLY U650,U651
SETUP RESTORE U779
YHS(0:7)
U655,U656
Σ
S4(0:7)
OVERFLOW DET. AND CLIP,U256
J16
1
2
3
CLIP DISABLE
CONNECT 1-2 OR 2-3 TO DISABLE CLIP
DIGITAL CLEANFEED OUT
VDCF(0:9)
U86
/VDCF(0:9)
DIGITAL DRIVER
VDOPC(0:7)
CHROMINANCE DATA
CHROMA FILTER U776
FC(0:7)
CHROMA MODULATOR U780
MC(0:7)
3.58_ENC
SYNC BRST ADDER U255
VDENC(0:9)
ENCODER
C8H
3CH
04H
DAC U164
IN
OUT
REF
VID DRIVE
R196
FILTER ISOLATION
CONNECT 1-2 OR 2-3 FOR NORM OPERATION
J12
1 2 3
PGM LPF INPUT
TP162
LPF,L102 L103,L104
TP163
PGM REF TP -1.000V
R187
REF ADJ
-2.5V
-1
+2.5V
U163
ADJ
D141 LM336 -2.5
DAC VOLTAGE REFERENCE
+.40V
0V
-.16V
PGM LPF OUT
TP161
+.76V
0V
-.30V
FILTERED VIDEO
TP160
U162
FREQ RSP EQ
U161
GROUP DELAY EQ
U160
FILTERED VIDEO
U163
U781
CHROMA LPF,U782
J15
1
2
3
R178
VID CLAMP REF
C186 .047UF
CLAMP DEFEAT
CONNECT 1-2 OR 2-3 TO DEFEAT CLAMP
VIDEO RECONSTRUCTION
DIGITAL KEY OUT
C8H
3CH
04H
U85
KDO(0:9)
/KDO(0:9)
DIGITAL DRIVER
KDOP(0:7)
KEY DLY U254,U251
OFFSET AND GAIN U253
KDDC(0:9)
SYNC BRST ADDER U252
DAC U204
IN
OUT
REF
KEY DRIVE
R227
FILTER ISOLATION
CONNECT 1-2 OR 2-3 FOR NORM OPERATION
J13
1 2 3
KEY LPF INPUT
TP201
LPF, L8 L12, L13
TP203
KEY REF TP -1.000V
R224
REF ADJ
-2.5V
-1
+2.5V
U203
ADJ
D230 LM336 -2.5
DAC VOLTAGE REFERENCE
+.90V
-.03V
-.40V
KEY LPF OUT
TP202
+1.09V
-.03V
-.48V
FILTERED KEY
TP200
U202
FREQ RSP EQ
U201
U200
GROUP DELAY EQ
FILTERED KEY
U203
U206
CHROMA LPF,U205
J14
1
2
3
R215
KEY CLAMP REF
C236 .047UF
CLAMP DEFEAT
CONNECT 1-2 OR 2-3 TO DEFEAT CLAMP
KEY RECONSTRUCTION

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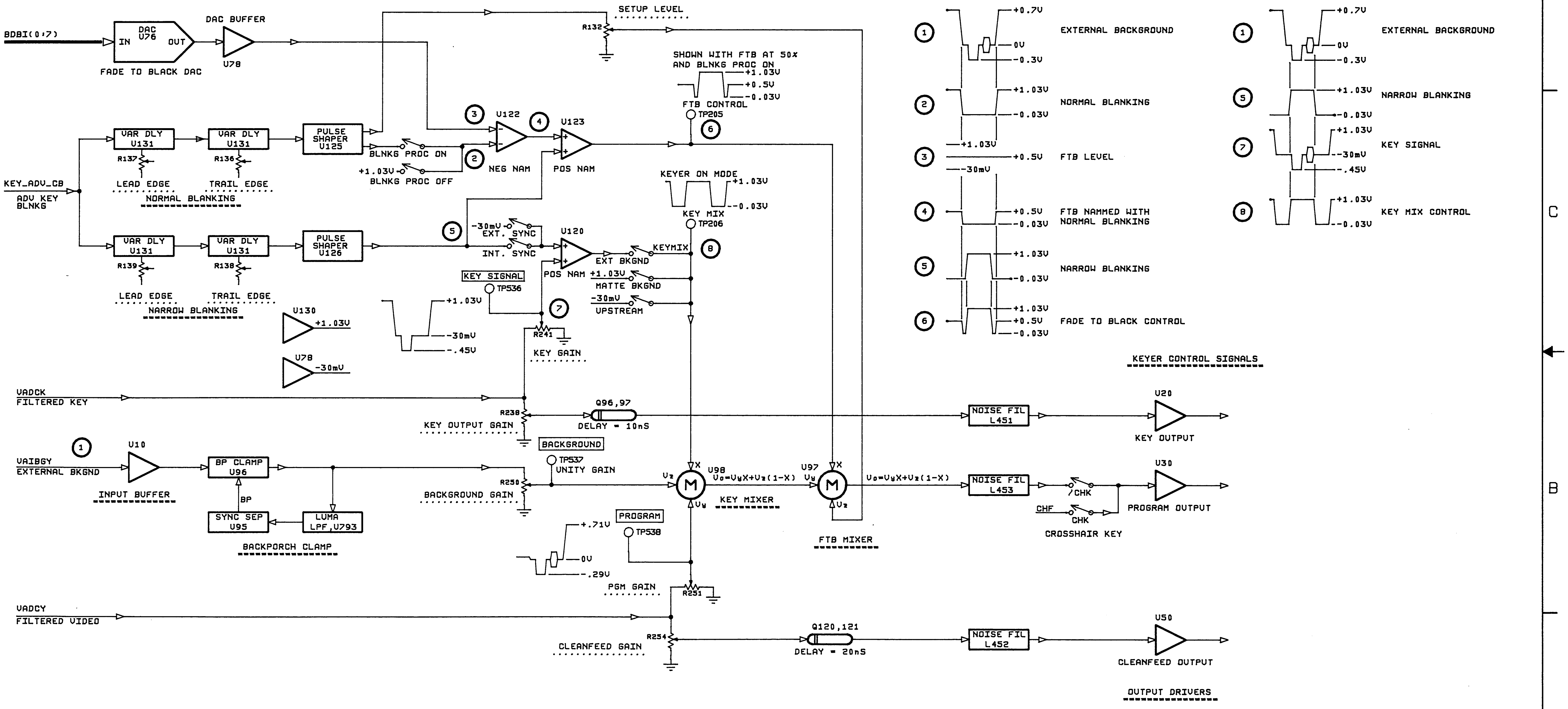
BLOCK DIAGRAM
INTERFACE MODULE
ENCODER AND DATA CONVERSION

SIZE	DRAWING NO.	REV
D	00-064702-02	D1

SCALE: NONE | SHEET 3 OF 4

SEE SHEET ONE FOR REVISIONS


BDBI(0:7)
DAC U76
IN
OUT
FADE TO BLACK DAC
DAC BUFFER
U78
SETUP LEVEL
R132
SHOWN WITH FTB AT 50%
AND BLNKG PROC ON
+1.03V
+0.5V
-0.03V
FTB CONTROL
TP205
⑥
③
U122
④
U123
PULSE SHAPER U125
BLNKG PROC ON
+1.03V
BLNKG PROC OFF
②
NEG NAM
POS NAM
VAR DLY U131
VAR DLY U131
R137
R136
LEAD EDGE
TRAIL EDGE
NORMAL BLANKING
KEY_ADV_CB
ADV KEY BLNKG
KEYER ON MODE
+1.03V
-0.03V
KEY MIX
TP206
⑤
-30mV
EXT. SYNC
INT. SYNC
U120
KEYMIX
⑧
EXT BKGND
+1.03V
MATTE BKGND
-30mV
UPSTREAM
PULSE SHAPER U126
VAR DLY U131
VAR DLY U131
R139
R138
LEAD EDGE
TRAIL EDGE
NARROW BLANKING
POS NAM
KEY SIGNAL
TP536
⑦
+1.03V
-30mV
-.45V
R241
KEY GAIN
U130
+1.03V
U78
-30mV
VADCK
FILTERED KEY
R238
KEY OUTPUT GAIN
Q96,97
DELAY = 10nS
NOISE FIL L451
U20
KEY OUTPUT
①
VAIBGY
EXTERNAL BKGND
U10
INPUT BUFFER
BP CLAMP U96
BP
SYNC SEP U95
LUMA LPF,U793
BACKPORCH CLAMP
BACKGROUND
TP537
UNITY GAIN
R250
BACKGROUND GAIN
Vz
X
U98
M
Vo=VyX+Vz(1-X)
Vy
KEY MIXER
U97
X
Vy
M
Vz
Vo=VyX+Vz(1-X)
FTB MIXER
NOISE FIL L453
CHK
CHF
CHK
CROSSHAIR KEY
U30
PROGRAM OUTPUT
PROGRAM
TP538
+.71V
0V
-.29V
PGM GAIN
R251
VADCY
FILTERED VIDEO
R254
CLEANFEED GAIN
Q120,121
DELAY = 20nS
NOISE FIL L452
U50
CLEANFEED OUTPUT
OUTPUT DRIVERS
①
+0.7V
0V
-0.3V
EXTERNAL BACKGROUND
②
+1.03V
-0.03V
NORMAL BLANKING
③
+1.03V
+0.5V
-30mV
FTB LEVEL
④
+0.5V
-0.03V
FTB NAMMED WITH NORMAL BLANKING
⑤
+1.03V
-0.03V
NARROW BLANKING
⑥
+1.03V
+0.5V
-0.03V
FADE TO BLACK CONTROL
①
+0.7V
0V
-0.3V
EXTERNAL BACKGROUND
⑤
+1.03V
-0.03V
NARROW BLANKING
⑦
+1.03V
-30mV
-.45V
KEY SIGNAL
⑧
+1.03V
-0.03V
KEY MIX CONTROL
KEYER CONTROL SIGNALS

GRASS VALLEY GROUP

BLOCK DIAGRAM
INTERFACE MODULE
KEYER AND CONTROL PROCESSOR

SIZE	DRAWING NO.	REV
D	00-064702-02	D1

SCALE: NONE SHEET 4 OF 4

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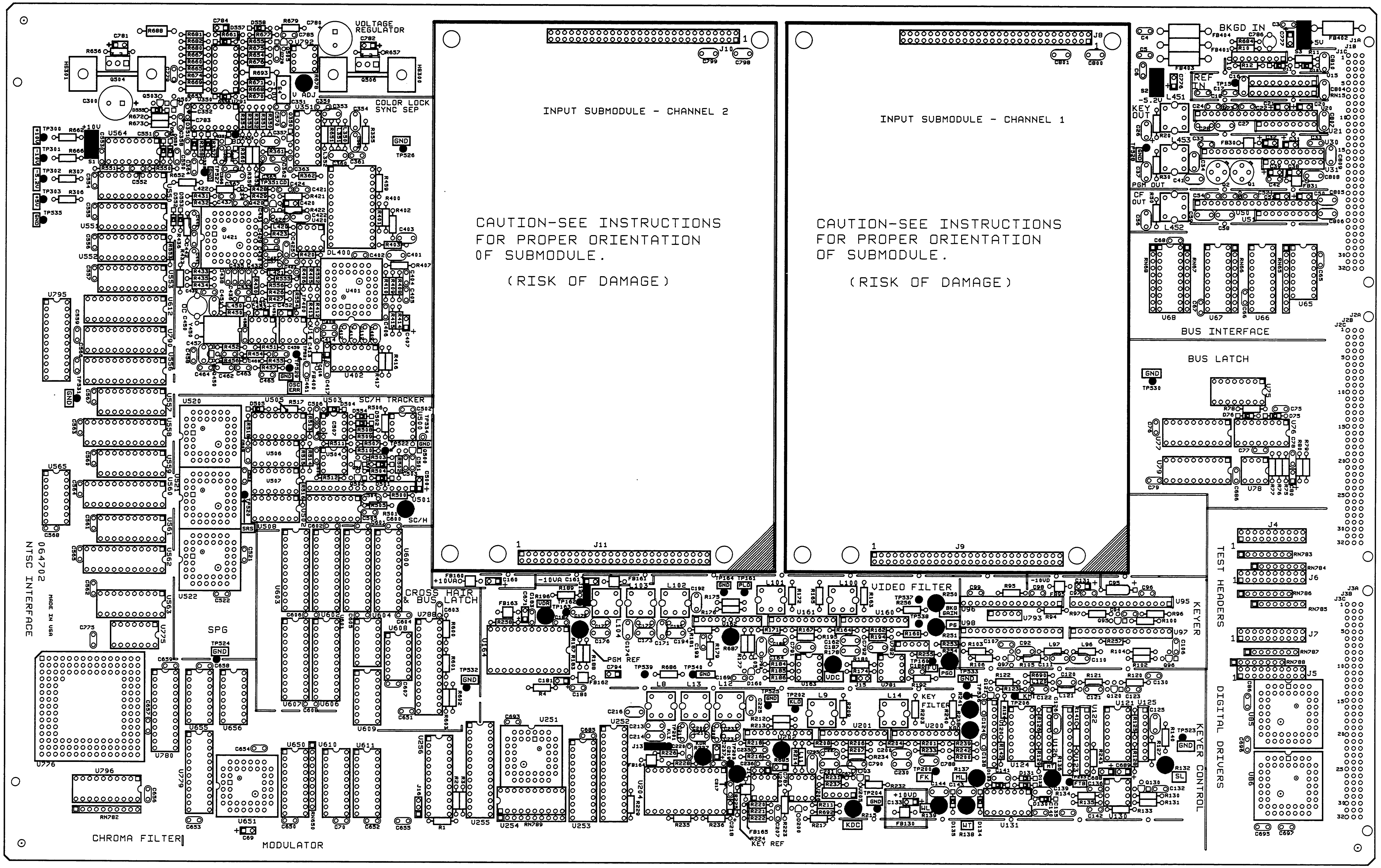
REVISIONS							
REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
A1	Z200	JS	2/90	—	—	—	—
PILOT RUN RELEASE							
B1	Z240	PLUM	JUNE 19 1991	—	JJP		—
C1	Z254						
D1	Z399						
ISSUE UPDATES ONLY							



INPUT SUBMODULE - CHANNEL 2
INPUT SUBMODULE - CHANNEL 1
CAUTION-SEE INSTRUCTIONS FOR PROPER ORIENTATION OF SUBMODULE.
(RISK OF DAMAGE)
CAUTION-SEE INSTRUCTIONS FOR PROPER ORIENTATION OF SUBMODULE.
(RISK OF DAMAGE)
VOLTAGE REGULATOR
COLOR LOCK SYNC SEP
SC/H TRACKER
SC/H
CROSS HAIR & BUS LATCH
SPG
CHROMA FILTER
MODULATOR
VIDEO FILTER
KEY FILTER
PGM REF
KEY REF
BKGD IN
REF IN
KEY OUT
PGM OUT
CF OUT
BUS INTERFACE
BUS LATCH
TEST HEADERS
KEYER
DIGITAL DRIVERS
KEYER CONTROL
064702
NTSC INTERFACE
MADE IN USA
J8
J9
J10
J11
J4
J5
J6
J7

NOTES:
1. SCHEMATIC REFERENCE: D10-064702-01.
2. DARKENED COMPONENTS INDICATE TEST POINTS AND ADJUSTABLE COMPONENTS.
3. REFER TO SCHEMATIC FOR EDGE CONNECTOR PIN OUT INFORMATION.

	CADNETICS
DMP-100	64702-02
USED ON	NEXT ASSY
APPLICATION	
DISTRIBUTION	

GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA *A TEKTRONIX COMPANY*

DRAWN JS/PLUM DATE 2/91
ENGINEER MMB
CHECKED DATE
APPROVED DATE
PILOT RUN RLSE JJP DATE 7-1-91
ENGRG RLSE DATE

ADJUSTABLE/COMPONENT LOCATION
NTSC INTERFACE
COMPOSITE ANALOG/DIGITAL

SIZE D DRAWING NO. 07/08-064702-02 D1
SCALE: NONE SHEET 1 OF 1

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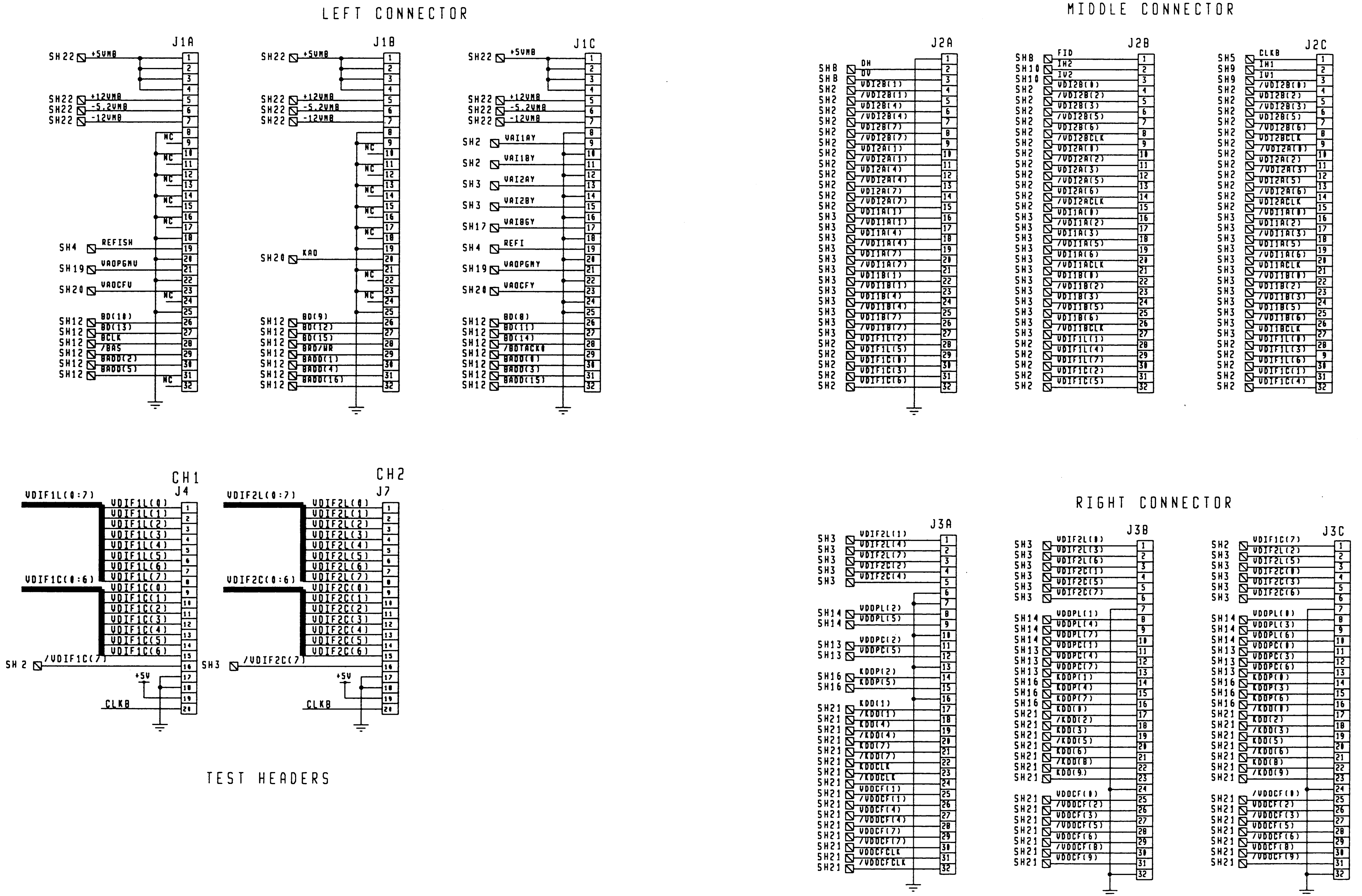
REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
A1	2283	JLS	6/91	—	—	—	—

PILOT RUN RELEASE


LEFT CONNECTOR
J1A
J1B
J1C
MIDDLE CONNECTOR
J2A
J2B
J2C
RIGHT CONNECTOR
J3A
J3B
J3C
CH1
J4
CH2
J7
VDIF1L(0:7)
VDIF1C(0:6)
VDIF2L(0:7)
VDIF2C(0:6)
/VDIF1C(7)
/VDIF2C(7)
CLK8
+5V
TEST HEADERS

GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA
A TEKTRONIX COMPANY

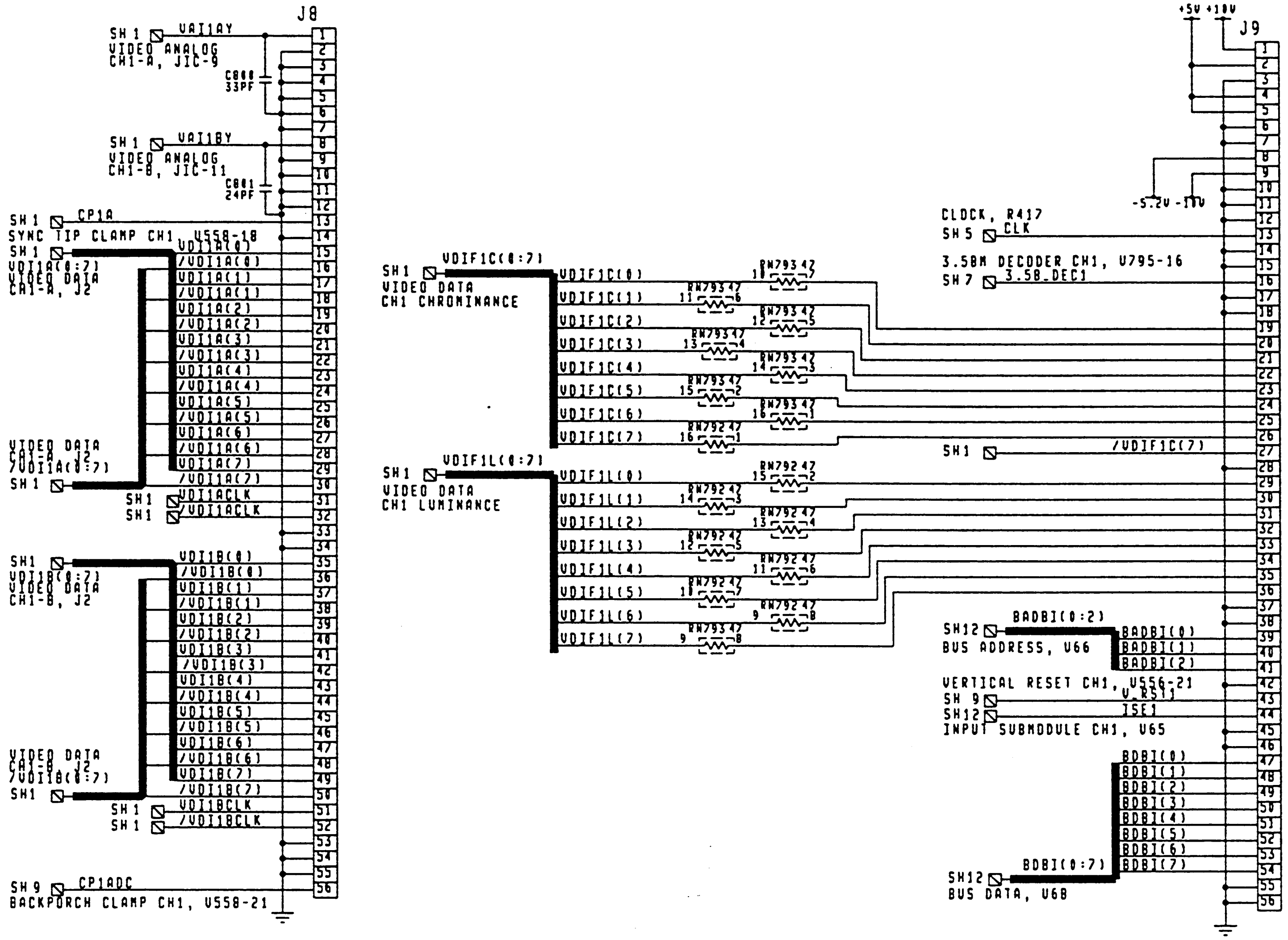
DRAWN	MMB/PLUM 5/91
ENGINEER	MMB
CHECKED	DATE
APPROVED	DATE
PILOT RUN RLSE	DATE
ENGRG RLSE	DATE

SCHEMATIC DIAGRAM
NTSC INTERFACE
COMPOSITE ANALOG/DIGITAL
MOTHERBOARD CONNECTIONS

SIZE D
DRAWING NO. 10-064702-03
REV A1
SCALE: NONE
SHEET 1 OF 24

	CADNETIX
DMP-100	064702
USED ON	NEXT ASSY
APPLICATION	
DISTRIBUTION	

SEE SHEET ONE FOR REVISIONS


J8
SH 1 VAI1AY
VIDEO ANALOG CH1-A, J1C-9
C800 33PF
SH 1 VAI1BY
VIDEO ANALOG CH1-B, J1C-11
C801 24PF
SH 1 CP1A
SYNC TIP CLAMP CH1, U558-18
SH 1 VDI1A(0:7) VIDEO DATA CH1-A, J2
VDI1A(0)
/VDI1A(0)
VDI1A(1)
/VDI1A(1)
VDI1A(2)
/VDI1A(2)
VDI1A(3)
/VDI1A(3)
VDI1A(4)
/VDI1A(4)
VDI1A(5)
/VDI1A(5)
VDI1A(6)
/VDI1A(6)
VDI1A(7)
/VDI1A(7)
VIDEO DATA CH1-A, J2 /VDI1A(0:7) SH 1
SH1 VDI1ACLK
SH1 /VDI1ACLK
SH1 VDI1B(0:7) VIDEO DATA CH1-B, J2
VDI1B(0)
/VDI1B(0)
VDI1B(1)
/VDI1B(1)
VDI1B(2)
/VDI1B(2)
VDI1B(3)
/VDI1B(3)
VDI1B(4)
/VDI1B(4)
VDI1B(5)
/VDI1B(5)
VDI1B(6)
/VDI1B(6)
VDI1B(7)
/VDI1B(7)
VIDEO DATA CH1-B, J2 /VDI1B(0:7) SH1
SH 1 VDI1BCLK
SH 1 /VDI1BCLK
SH 9 CP1ADC
BACKPORCH CLAMP CH1, U558-21
SH1 VDIF1C(0:7)
VIDEO DATA CH1 CHROMINANCE
VDIF1C(0)
VDIF1C(1)
VDIF1C(2)
VDIF1C(3)
VDIF1C(4)
VDIF1C(5)
VDIF1C(6)
VDIF1C(7)
RN793 47
RN792 47
SH1 VDIF1L(0:7)
VIDEO DATA CH1 LUMINANCE
VDIF1L(0)
VDIF1L(1)
VDIF1L(2)
VDIF1L(3)
VDIF1L(4)
VDIF1L(5)
VDIF1L(6)
VDIF1L(7)
+5V +10V
J9
-5.2V -10V
CLOCK, R417
SH 5 CLK
3.58M DECODER CH1, U795-16
SH 7 3.58_DEC1
SH1 /VDIF1C(7)
SH12 BADBI(0:2)
BUS ADDRESS, U66
BADBI(0)
BADBI(1)
BADBI(2)
VERTICAL RESET CH1, U556-21
SH 9 V_RST1
SH12 ISE1
INPUT SUBMODULE CH1, U65
BDBI(0)
BDBI(1)
BDBI(2)
BDBI(3)
BDBI(4)
BDBI(5)
BDBI(6)
BDBI(7)
SH12 BDBI(0:7)
BUS DATA, U68

NOTES:

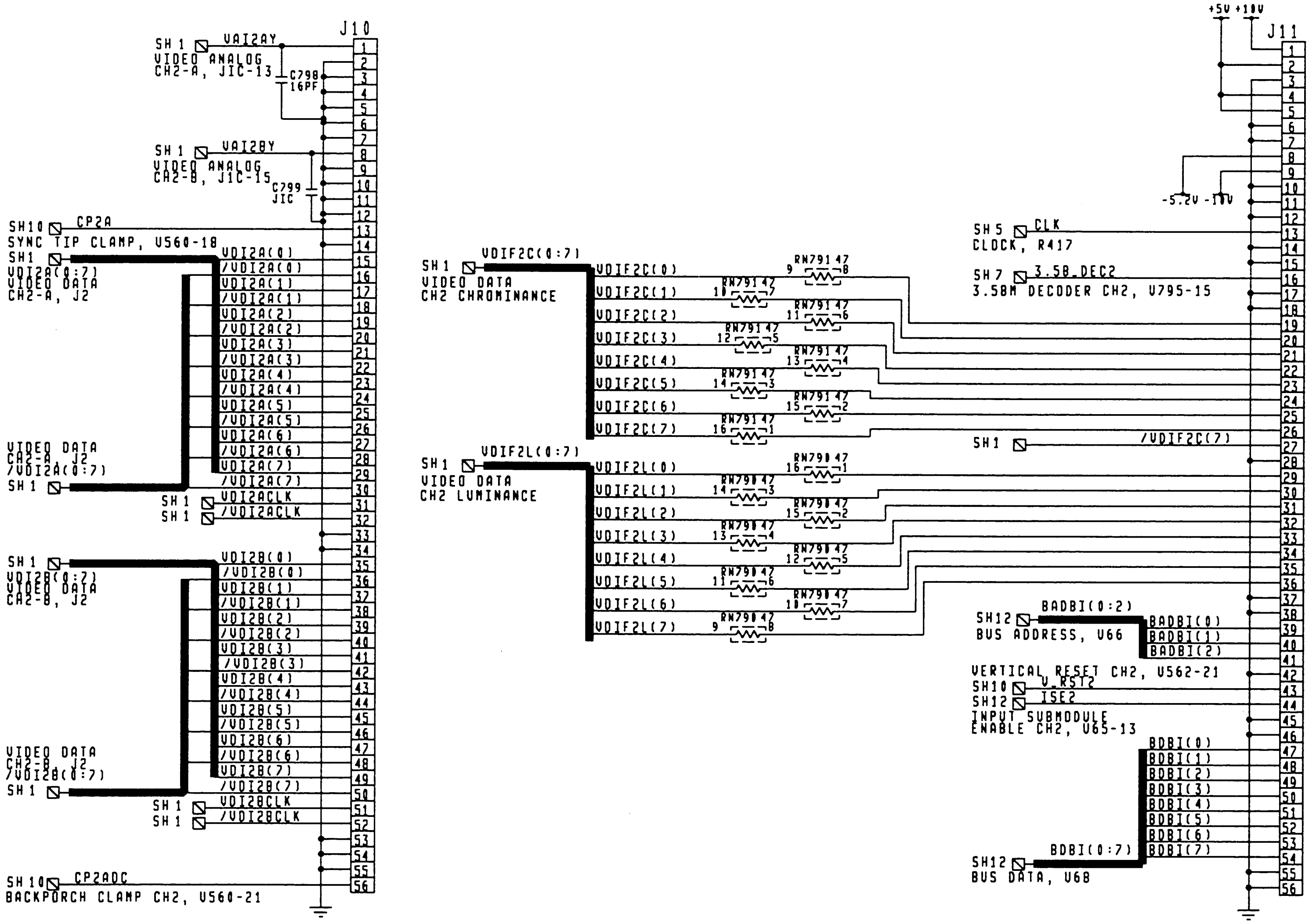
1. REMOVE PIN FROM J8-53.
2. REMOVE PIN FROM J9-3.
3. ON PLUG/KEY TO J1-53 & J2-3 ON SUBMODULE 44705 & 44626 FOR PROPER ORIENTATION TO THIS BOARD.

GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
NTSC INTERFACE
COMPOSITE ANALOG/DIGITAL
INPUT SUBMODULE CONNS. CH1

SIZE	DRAWING NO.	REV
D	10-064702-03	A1
SCALE: NONE	SHEET 2 OF 24	

SEE SHEET ONE FOR REVISIONS


J10
SH 1 VAI2AY VIDEO ANALOG CH2-A, J1C-13
C798 16PF
SH 1 VAI2BY VIDEO ANALOG CH2-B, J1C-15
C799 J1C
SH10 CP2A SYNC TIP CLAMP, U560-18
SH1 VDI2A(0:7) VIDEO DATA CH2-A, J2
VDI2A(0) /VDI2A(0) VDI2A(1) /VDI2A(1) VDI2A(2) /VDI2A(2) VDI2A(3) /VDI2A(3) VDI2A(4) /VDI2A(4) VDI2A(5) /VDI2A(5) VDI2A(6) /VDI2A(6) VDI2A(7) /VDI2A(7)
VIDEO DATA CH2-A J2 /VDI2A(0:7) SH 1
SH 1 VDI2ACLK
SH 1 /VDI2ACLK
SH 1 VDI2B(0:7) VIDEO DATA CH2-B, J2
VDI2B(0) /VDI2B(0) VDI2B(1) /VDI2B(1) VDI2B(2) /VDI2B(2) VDI2B(3) /VDI2B(3) VDI2B(4) /VDI2B(4) VDI2B(5) /VDI2B(5) VDI2B(6) /VDI2B(6) VDI2B(7) /VDI2B(7)
VIDEO DATA CH2-B J2 /VDI2B(0:7) SH 1
SH 1 VDI2BCLK
SH 1 /VDI2BCLK
SH 10 CP2ADC BACKPORCH CLAMP CH2, U560-21
SH 1 VDIF2C(0:7) VIDEO DATA CH2 CHROMINANCE
VDIF2C(0) VDIF2C(1) VDIF2C(2) VDIF2C(3) VDIF2C(4) VDIF2C(5) VDIF2C(6) VDIF2C(7)
RN791 47
SH 1 VDIF2L(0:7) VIDEO DATA CH2 LUMINANCE
VDIF2L(0) VDIF2L(1) VDIF2L(2) VDIF2L(3) VDIF2L(4) VDIF2L(5) VDIF2L(6) VDIF2L(7)
RN790 47
J11
+5V +10V
-5.2V -10V
SH 5 CLK CLOCK, R417
SH 7 3.58_DEC2 3.58M DECODER CH2, U795-15
SH1 /VDIF2C(7)
SH12 BADBI(0:2) BUS ADDRESS, U66
BADBI(0) BADBI(1) BADBI(2)
VERTICAL RESET CH2, U562-21
SH10 V_RST2
SH12 ISE2 INPUT SUBMODULE ENABLE CH2, U65-13
BDBI(0) BDBI(1) BDBI(2) BDBI(3) BDBI(4) BDBI(5) BDBI(6) BDBI(7)
SH12 BDBI(0:7) BUS DATA, U68

NOTES:

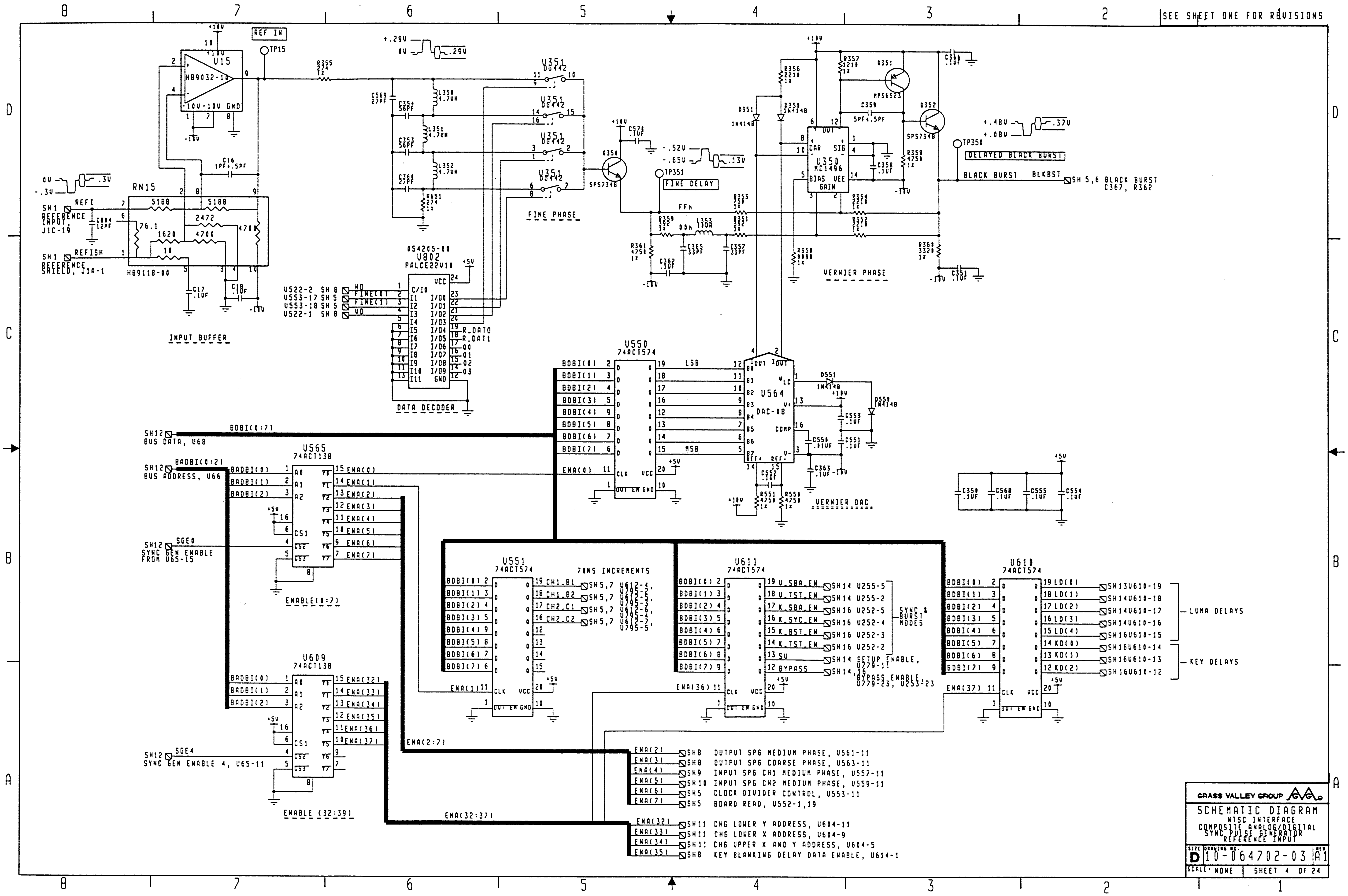
1. REMOVE PIN FROM J10-53.
2. REMOVE PIN FROM J11-3.
3. ADD PLUG/KEY TO J1-53 & J2-3
   ON SUBMODULE 44705 & 44626 FOR
   PROPER ORIENTATION TO THIS BOARD.

GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
NTSC INTERFACE
COMPOSITE ANALOG/DIGITAL
INPUT SUBMODULE CONNS. CH2

SIZE	DRAWING NO.	REV
D	10-064702-03	A1

SCALE: NONE | SHEET 3 OF 24


SEE SHEET ONE FOR REVISIONS
REF IN
TP15
U15
HB9032-10
+10V
-10V -10V GND
R355 274 1%
+.29V
0V
-.29V
U351 DG442
C569 27PF
C354 56PF
L350 4.7UH
C353 56PF
L351 4.7UH
C360 27PF
L352 4.7UH
R651 274 1%
FINE PHASE
RN15
SH1 REFI REFERENCE INPUT, J1C-19
SH1 REFISH REFERENCE SHIELD, J1A-1
C804 12PF
C16 1PF+.5PF
5100
2472
4700
1620
76.1
10
HB9118-00
C17 .1UF
C18 .1UF
0V
-.3V
.3V
INPUT BUFFER
054205-00
U802
PALCE22V10
U522-2 SH 8 HD
U553-17 SH 5 FINE(0)
U553-18 SH 5 FINE(1)
U522-1 SH 8 VD
C/I0
I1 I2 I3 I4 I5 I6 I7 I8 I9 I10 I11
VCC
I/O0 I/O1 I/O2 I/O3 I/O4 I/O5 I/O6 I/O7 I/O8 I/O9
GND
R_DAT0
R_DAT1
Q0 Q1 Q2 Q3
DATA DECODER
Q350
SPS7348
C570 .1UF
-.52V
-.65V
-.13V
TP351
FINE DELAY
FFh
R359 392 1%
00h
L353 100N
R353 750 1%
R351 392 1%
R361 475 1%
C365 33PF
C357 33PF
C362 .1UF
R350 909 1%
R354 221 1%
R352 221 1%
R360 332 1%
C351 .1UF
VERNIER PHASE
R356 221 1%
D351 1N4148
D359 1N4148
R357 121 1%
Q351 MPS6523
C356 .1UF
C359 5PF+.5PF
Q352 SPS7348
U350 MC1496
CAR SIG
BIAS VEE GAIN
C358 .1UF
R358 475 1%
TP350
DELAYED BLACK BURST
+.48V
+.08V
.37V
BLACK BURST BLKBST
SH 5,6 BLACK BURST C367, R362
U550 74ACT574
BDBI(0) BDBI(1) BDBI(2) BDBI(3) BDBI(4) BDBI(5) BDBI(6) BDBI(7)
LSB
MSB
ENA(0)
CLK VCC
OUT EN GND
U564 DAC-08
B0 B1 B2 B3 B4 B5 B6 B7
IOUT
VLC
V+
COMP
V-
REF+ REF-
D551 1N4148
D550 1N4148
C553 .1UF
C550 .01UF
C551 .1UF
C363 .1UF
C552 .1UF
R551 475 1%
R550 475 1%
VERNIER DAC
C350 .1UF
C560 .1UF
C555 .1UF
C554 .1UF
SH12 BDBI(0:7) BUS DATA, U68
SH12 BADBI(0:2) BUS ADDRESS, U66
U565 74ACT138
A0 A1 A2 CS1 CS2 CS3
ENA(0) ENA(1) ENA(2) ENA(3) ENA(4) ENA(5) ENA(6) ENA(7)
SH12 SGE0 SYNC GEN ENABLE FROM U65-15
ENABLE(0:7)
U609 74ACT138
ENA(32) ENA(33) ENA(34) ENA(35) ENA(36) ENA(37)
SH12 SGE4 SYNC GEN ENABLE 4, U65-11
ENABLE (32:39)
U551 74ACT574
70NS INCREMENTS
CH1_B1 SH5,7
CH1_B2 SH5,7
CH2_C1 SH5,7
CH2_C2 SH5,7
U612-4, U795-6, U612-5, U795-3, U612-6, U795-4, U612-2, U795-5
ENA(1)
U611 74ACT574
V_SBA_EN SH14 U255-5
V_TST_EN SH14 U255-2
K_SBA_EN SH16 U252-5
K_SYC_EN SH16 U252-4
K_BST_EN SH16 U252-3
K_TST_EN SH16 U252-2
SYNC & BURST MODES
SU SH14 SETUP ENABLE, U279-11
BYPASS SH14,16 BYPASS ENABLE U279-23, U253-23
ENA(36)
U610 74ACT574
LD(0) SH13U610-19
LD(1) SH14U610-18
LD(2) SH14U610-17
LD(3) SH14U610-16
LD(4) SH16U610-15
KD(0) SH16U610-14
KD(1) SH16U610-13
KD(2) SH16U610-12
LUMA DELAYS
KEY DELAYS
ENA(37)
ENA(2:7)
ENA(32:37)
ENA(2) SH8 OUTPUT SPG MEDIUM PHASE, U561-11
ENA(3) SH8 OUTPUT SPG COARSE PHASE, U563-11
ENA(4) SH9 INPUT SPG CH1 MEDIUM PHASE, U557-11
ENA(5) SH10 INPUT SPG CH2 MEDIUM PHASE, U559-11
ENA(6) SH5 CLOCK DIVIDER CONTROL, U553-11
ENA(7) SH5 BOARD READ, U552-1,19
ENA(32) SH11 CHG LOWER Y ADDRESS, U604-11
ENA(33) SH11 CHG LOWER X ADDRESS, U604-9
ENA(34) SH11 CHG UPPER X AND Y ADDRESS, U604-5
ENA(35) SH8 KEY BLANKING DELAY DATA ENABLE, U614-1
8 7 6 5 4 3 2 1
D C B A

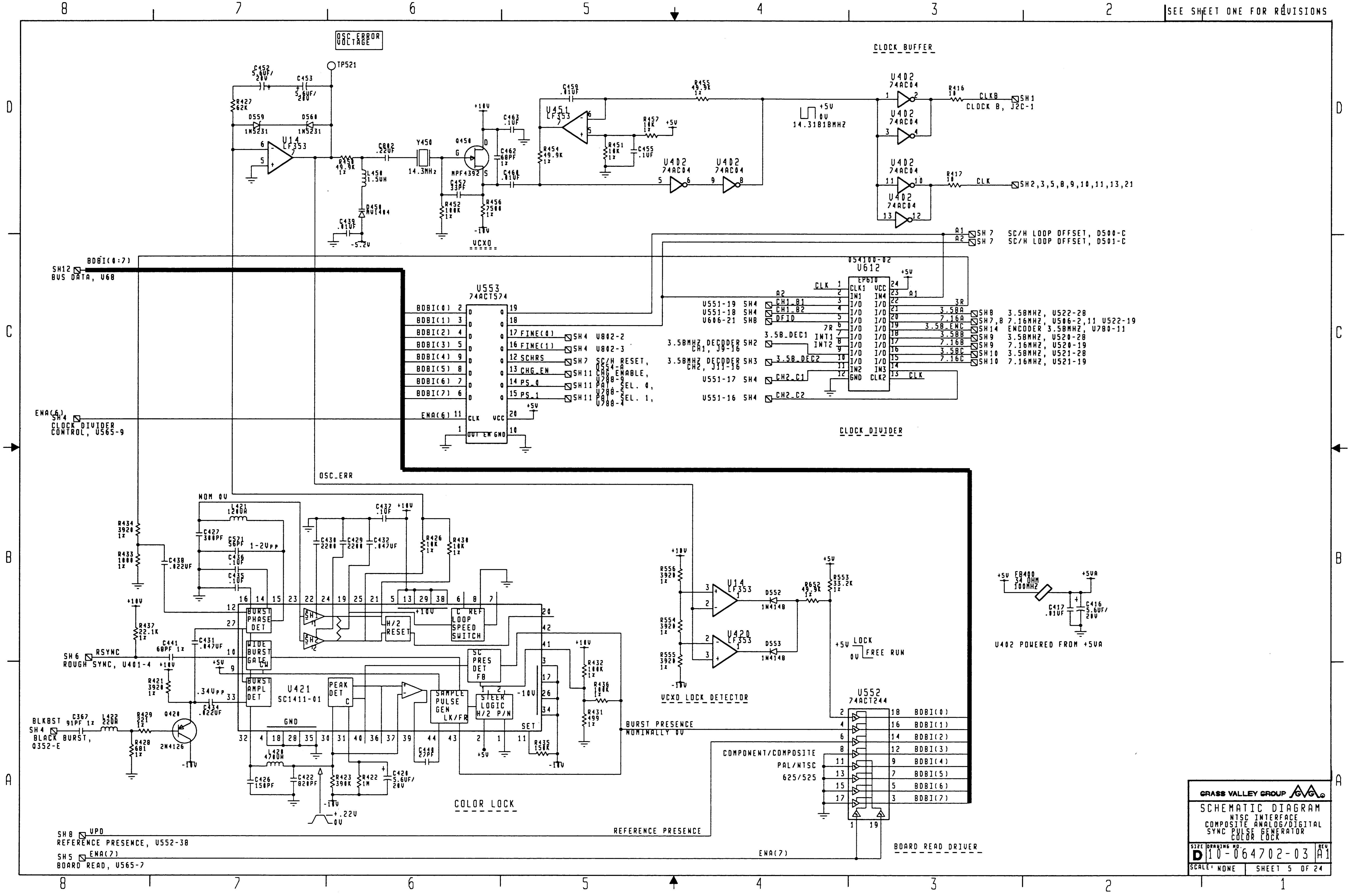
GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
NTSC INTERFACE
COMPOSITE ANALOG/DIGITAL
SYNC PULSE GENERATOR
REFERENCE INPUT

SIZE	DRAWING NO.	REV
D	10-064702-03	A1

SCALE: NONE SHEET 4 OF 24

SEE SHEET ONE FOR REVISIONS


OSC ERROR VOLTAGE
TP521
C452 5.6UF/ 20V
C453 5.6UF/ 20V
R427 62K
D559 1N5231
D560 1N5231
U14 LF353
R453 49.9K 1%
L450 1.5UH
D450 MV1404
C439 .01UF
-5.2V
C802 .22UF
Y450 14.3MHz
Q450 MPF4392
C457 33PF
R452 100K
C462 68PF 1%
C463 .1UF
C461 .01UF
R456 750 1%
-10V
VCXO
C450 .01UF
U451 LF353
R454 49.9K 1%
R451 10K 1%
C455 .1UF
R457 10K 1%
+5V
R455 49.9K 1%
U402 74AC04
14.31818MHZ
CLOCK BUFFER
R416 10
CLKB
SH1 CLOCK B, J2C-1
R417 10
CLK
SH2,3,5,8,9,10,11,13,21
A1 SH 7 SC/H LOOP OFFSET, D500-C
A2 SH 7 SC/H LOOP OFFSET, D501-C
SH12 BDBI(0:7) BUS DATA, U68
U553 74ACT574
BDBI(0) … BDBI(7)
ENA(6)
SH4 CLOCK DIVIDER CONTROL, U565-9
FINE(0) SH4 U802-2
FINE(1) SH4 U802-3
SCHRS SH7 SC/H RESET, D554-A
CHG_EN SH11 CHG ENABLE, U788-9
PS_0 SH11 PAT. SEL. 0, U788-3
PS_1 SH11 PAT. SEL. 1, U788-4
OUT EN GND
054100-02 U612 EP610
U551-19 SH4 CH1_B1
U551-18 SH4 CH1_B2
U606-21 SH8 DFID
3.58MHZ DECODER CH1, J9-16 SH2 3.58_DEC1
3.58MHZ DECODER CH2, J11-16 SH3 3.58_DEC2
U551-17 SH4 CH2_C1
U551-16 SH4 CH2_C2
3.58A SH8 3.58MHZ, U522-28
7.16A SH7,8 7.16MHZ, U506-2,11 U522-19
3.58_ENC SH14 ENCODER 3.58MHZ, U780-11
3.58B SH9 3.58MHZ, U520-28
7.16B SH9 7.16MHZ, U520-19
3.58C SH10 3.58MHZ, U521-28
7.16C SH10 7.16MHZ, U521-19
CLOCK DIVIDER
OSC_ERR
NOM 0V
L421 1200A
C427 300PF
C521 56PF
1-2Vpp
C436 .1UF
C435 .1UF
C437 .1UF
C430 2200
C429 2200
C432 .047UF
R426 10K 1%
R430 10K 1%
R434 3920 1%
R433 1000 1%
C438 .022UF
R437 22.1K 1%
C441 68PF 1%
C431 .047UF
SH6 RSYNC ROUGH SYNC, U401-4
R421 3920 1%
.34Vpp
C434 .022UF
SH4 BLKBST BLACK BURST, Q352-E
C367 91PF 1%
L422 220N
R429 221 1%
R428 681 1%
Q420 2N4126
BURST PHASE DET
WIDE BURST GATE
BURST AMPL DET
U421 SC1411-01
PEAK DET
H/2 RESET
C REF LOOP SPEED SWITCH
SC PRES DET FB
SAMPLE PULSE GEN LK/FR
STEER LOGIC H/2 P/N
GND
SET
L420 470UH
C426 150PF
C422 820PF
R423 390K
R422 1M
C420 5.6UF/ 20V
C440 27PF
+.22V 0V
R432 100K 1%
R436 100K 1%
R431 499 1%
R435 150K
COLOR LOCK
BURST PRESENCE NOMINALLY 0V
R556 3920 1%
R554 3920 1%
R555 3920 1%
U14 LF353
U420 LF353
D552 1N4148
D553 1N4148
R652 49.9K 1%
R553 33.2K 1%
+5V LOCK 0V FREE RUN
VCXO LOCK DETECTOR
+5V FB400 34 OHM 100MHZ +5VA
C417 .01UF
C416 5.6UF/ 20V
U402 POWERED FROM +5VA
U552 74ACT244
COMPONENT/COMPOSITE
PAL/NTSC
625/525
SH8 VPD REFERENCE PRESENCE, U552-38
REFERENCE PRESENCE
SH5 ENA(7) BOARD READ, U565-7
BOARD READ DRIVER
8 7 6 5 4 3 2 1
D C B A

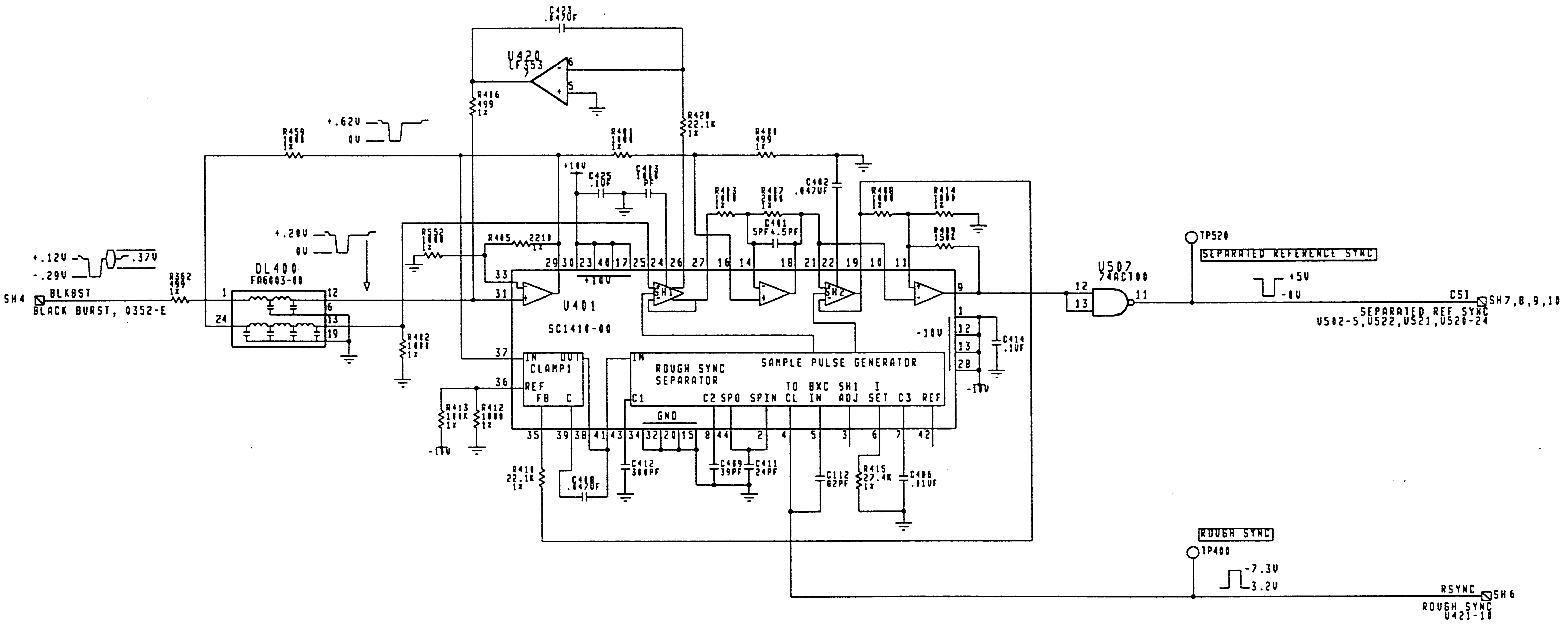
GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
NTSC INTERFACE
COMPOSITE ANALOG/DIGITAL
SYNC PULSE GENERATOR
COLOR LOCK

SIZE	DRAWING NO.	REV
D	10-064702-03	A1

SCALE: NONE
SHEET 5 OF 24

SEE SHEET ONE FOR REVISIONS


U420
LF353
R406 499 1%
C423 .047UF
R420 22.1K 1%
R459 1000 1%
+.62V
0V
R401 1000 1%
R400 499 1%
+10V
C425 .10F
C403 1000 PF
C402 .047UF
R403 1000 1%
R407 2000 1%
C401 5PF-6.5PF
R408 1000 1%
R414 1000 1%
R409 150K
+.20V
0V
R552 1000 1%
R405 2210 1%
+.12V
-.29V
.37V
SH4
BLKBST
BLACK BURST, 0352-E
R362 499 1%
DL400
FA6003-00
R402 1000 1%
U401
SC1410-00
+10V
SH1
SH2
-10V
C414 .1UF
-10V
IN
CLAMP1
OUT
REF
FB
C
ROUGH SYNC SEPARATOR
SAMPLE PULSE GENERATOR
C1
C2
SPO
SPIN
TO CL
BXC IN
SH1 ADJ
I SET
C3
REF
GND
R413 100K 1%
R412 1000 1%
-10V
R410 22.1K 1%
C408 .047UF
C412 300PF
C409 39PF
C411 24PF
C112 82PF
R415 27.4K 1%
C406 .01UF
U507
74ACT00
TP520
SEPARATED REFERENCE SYNC
+5V
-0V
CSI
SH7,8,9,10
SEPARATED REF SYNC
U502-5,U522,U521,U520-24
ROUGH SYNC
TP400
-7.3V
3.2V
RSYNC
SH6
ROUGH SYNC
U421-10

GRASS VALLEY GROUP

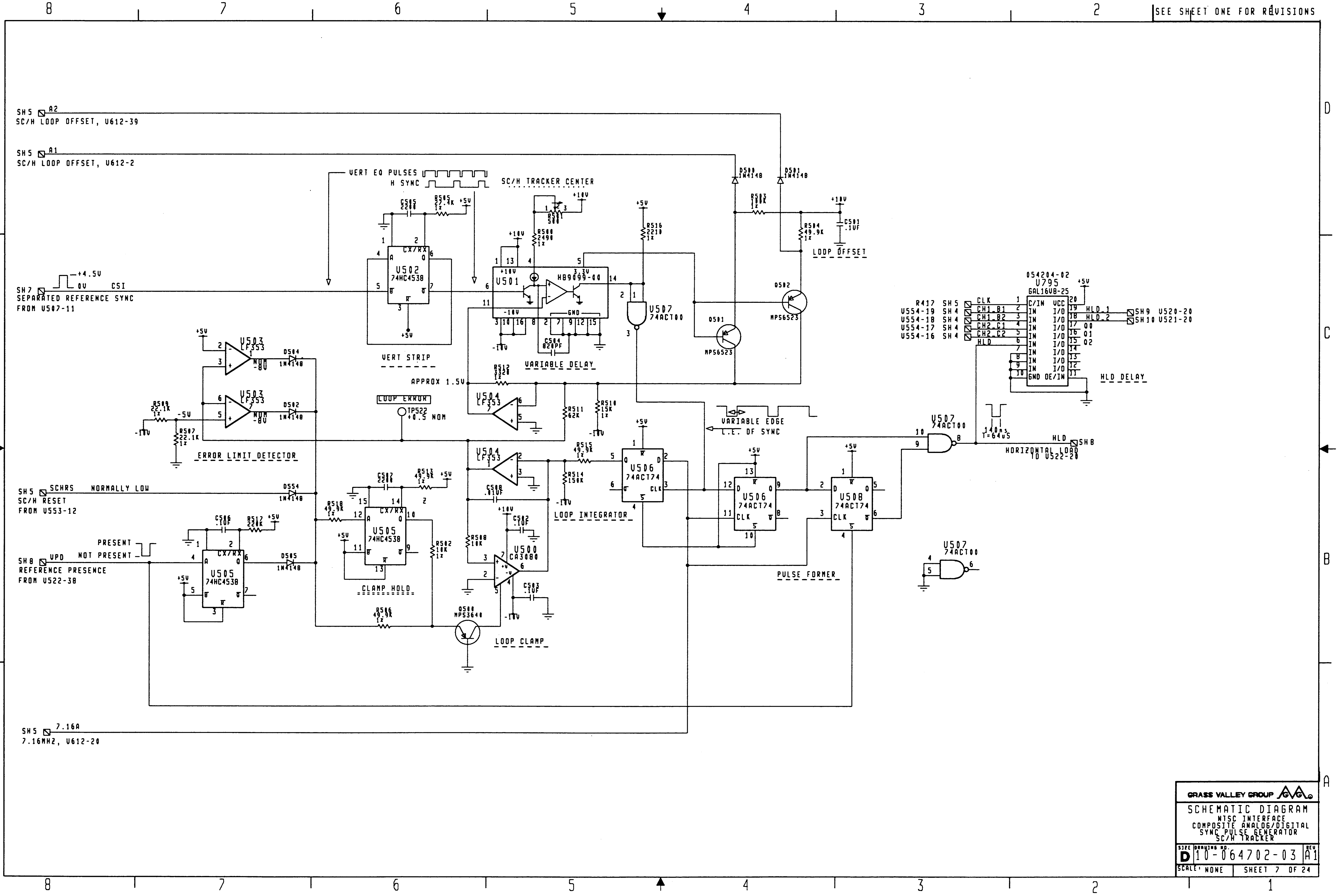
SCHEMATIC DIAGRAM

NTSC INTERFACE
COMPOSITE ANALOG/DIGITAL
SYNC PULSE GENERATOR
SYNC SEPARATOR

SIZE	DRAWING NO.	REV
D	10-064702-03	A1

SCALE: NONE | SHEET 6 OF 24

SEE SHEET ONE FOR REVISIONS


SH5 A2 SC/H LOOP OFFSET, U612-39
SH5 A1 SC/H LOOP OFFSET, U612-2
VERT EQ PULSES
H SYNC
SC/H TRACKER CENTER
SH7 +4.5V 0V CSI
SEPARATED REFERENCE SYNC FROM U507-11
C505 2200
R505 27.4K 1%
+5V
U502 74HC4538
CX/RX
VERT STRIP
+10V
R501 500
R500 2490 1%
U501 HB9099-00
3.3V
-10V
GND
C504 820PF
VARIABLE DELAY
R516 2210 1%
U507 74ACT00
D500 1N4148
D501 1N4148
R503 100K 1%
R504 49.9K 1%
C501 .1UF
LOOP OFFSET
Q502 MPS6523
Q501 MPS6523
U503 LF353
NOM -8V
D504 1N4148
D502 1N4148
R509 22.1K 1%
-5V
-10V
R507 22.1K 1%
ERROR LIMIT DETECTOR
APPROX 1.5V
R512 3320 1%
LOOP ERROR
TP522 +0.5 NOM
U504 LF353
R511 62K
R510 15K 1%
VARIABLE EDGE
L.E. OF SYNC
054204-02
U795
GAL16V8-25
R417 SH5 CLK
U554-19 SH4 CH1_B1
U554-18 SH4 CH1_B2
U554-17 SH4 CH2_C1
U554-16 SH4 CH2_C2
HLD
C/IN VCC
IN I/O
GND OE/IN
HLD_1 SH9 U520-20
HLD_2 SH10 U521-20
Q0
Q1
Q2
HLD DELAY
140ns
T=64uS
HLD SH8
HORIZONTAL LOAD TO U522-20
SH5 SCHRS NORMALLY LOW
SC/H RESET FROM U553-12
D554 1N4148
C507 2200
R513 49.9K 1%
R518 49.9K 1%
U505 74HC4538
CLAMP HOLD
C508 .01UF
R515 49.9K 1%
R514 150K
LOOP INTEGRATOR
U506 74ACT74
U508 74ACT74
CLK
PULSE FORMER
PRESENT
NOT PRESENT
SH8 VPD
REFERENCE PRESENCE FROM U522-38
C506 .10F
R512 220K
D505 1N4148
R502 10K 1%
R508 10K
C502 .10F
U500 CA3080
C503 .1UF
R506 49.9K 1%
Q500 MPS3640
LOOP CLAMP
SH5 7.16A
7.16MHZ, U612-20

GRASS VALLEY GROUP GVG

SCHEMATIC DIAGRAM
NTSC INTERFACE
COMPOSITE ANALOG/DIGITAL
SYNC PULSE GENERATOR
SC/H TRACKER

SIZE	DRAWING NO.	REV
D	10-064702-03	A1

SCALE: NONE SHEET 7 OF 24

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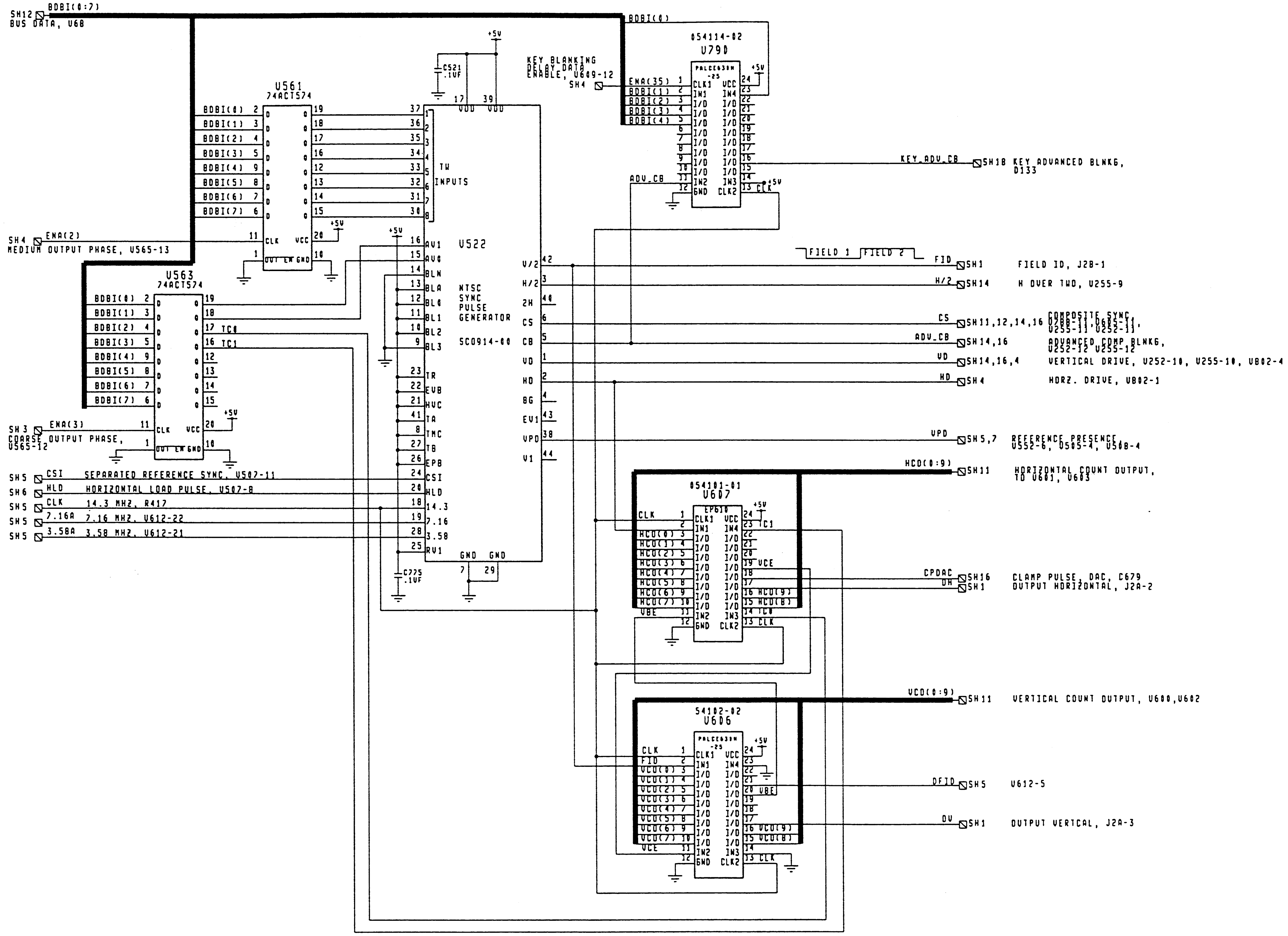
SH12 BDBI(0:7) BUS DATA, U68
U561 74ACT574
BDBI(0) BDBI(1) BDBI(2) BDBI(3) BDBI(4) BDBI(5) BDBI(6) BDBI(7)
SH4 ENA(2) MEDIUM OUTPUT PHASE, U565-13
U563 74ACT574
TC0
TC1
SH3 ENA(3) COARSE OUTPUT PHASE, U565-12
SH5 CSI SEPARATED REFERENCE SYNC, U507-11
SH6 HLD HORIZONTAL LOAD PULSE, U507-8
SH5 CLK 14.3 MHZ, R417
SH5 7.16A 7.16 MHZ, U612-22
SH5 3.58A 3.58 MHZ, U612-21
C521 .1UF
+5V
U522
NTSC SYNC PULSE GENERATOR
SC0914-00
TW INPUTS
AV1 AV0 BLN BLA BL0 BL1 BL2 BL3 TR EVB HVC TA TMC TB EPB CSI HLD 14.3 7.16 3.58 RV1
V/2 H/2 2H CS CB VD HD BG EV1 VPD V1
VDD VDD GND GND
C775 .1UF
KEY BLANKING DELAY DATA ENABLE, U609-12
SH4 ENA(35)
BDBI(0)
054114-02
U790
PALCE610H -25
CLK1 VCC IN1 IN4 I/O IN2 IN3 GND CLK2
ADV_CB
KEY_ADV_CB SH18 KEY ADVANCED BLNKG, D133
FIELD 1 FIELD 2
FID SH1 FIELD ID, J2B-1
H/2 SH14 H OVER TWO, U255-9
CS SH11,12,14,16 COMPOSITE SYNC, U288-11,U605-11, U255-11,U252-11
ADV_CB SH14,16 ADVANCED COMP BLNKG, U252-12 U255-12
VD SH14,16,4 VERTICAL DRIVE, U252-10, U255-10, U802-4
HD SH4 HORZ. DRIVE, U802-1
VPD SH5,7 REFERENCE PRESENCE U552-6, U505-4, U508-4
HCO(0:9) SH11 HORIZONTAL COUNT OUTPUT, TO U601, U603
054101-01
U607
EP610
CLK
HCO(0) HCO(1) HCO(2) HCO(3) HCO(4) HCO(5) HCO(6) HCO(7) HCO(8) HCO(9)
VBE VCE TC1 TC0
CPDAC SH16 CLAMP PULSE, DAC, C679
OH SH1 OUTPUT HORIZONTAL, J2A-2
VCO(0:9) SH11 VERTICAL COUNT OUTPUT, U600,U602
54102-02
U606
PALCE610H -25
CLK FID
VCO(0) VCO(1) VCO(2) VCO(3) VCO(4) VCO(5) VCO(6) VCO(7) VCO(8) VCO(9)
VCE VBE
OFID SH5 U612-5
OV SH1 OUTPUT VERTICAL, J2A-3

GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
NTSC INTERFACE
COMPOSITE ANALOG/DIGITAL
SYNC PULSE GENERATOR
OUTPUT PULSE GEN

SIZE	DRAWING NO.	REV
D	10-064702-03	A1
SCALE: NONE	SHEET 8 OF 24	

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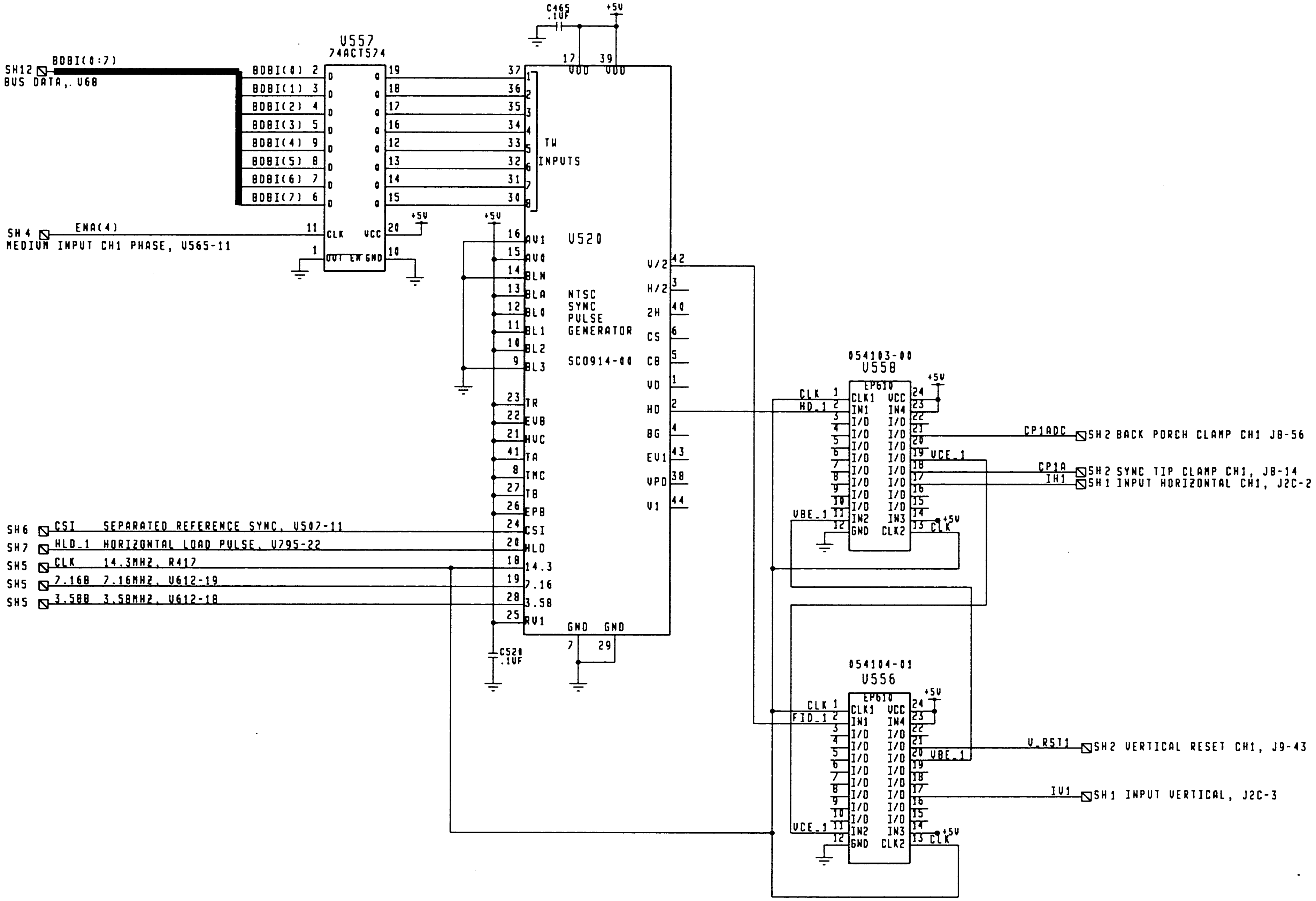

SH12 BUS DATA, U68
BDBI(0:7)
U557
74ACT574
BDBI(0) 2
BDBI(1) 3
BDBI(2) 4
BDBI(3) 5
BDBI(4) 9
BDBI(5) 8
BDBI(6) 7
BDBI(7) 6
SH 4 MEDIUM INPUT CH1 PHASE, U565-11
ENA(4)
CLK
VCC
+5V
OUT EN
GND
C465 .1UF
+5V
VDD
VDD
TW INPUTS
U520
NTSC SYNC PULSE GENERATOR
SC0914-00
AV1
AV0
BLN
BLA
BL0
BL1
BL2
BL3
TR
EVB
HVC
TA
TMC
TB
EPB
CSI
HLD
14.3
7.16
3.58
RV1
GND
GND
V/2
H/2
2H
CS
CB
VD
HD
BG
EV1
VPD
V1
C520 .1UF
SH6 CSI SEPARATED REFERENCE SYNC, U507-11
SH7 HLD_1 HORIZONTAL LOAD PULSE, U795-22
SH5 CLK 14.3MHZ, R417
SH5 7.16B 7.16MHZ, U612-19
SH5 3.58B 3.58MHZ, U612-18
054103-00
U558
EP610
CLK
HD_1
VBE_1
VCE_1
+5V
CLK
CP1ADC SH2 BACK PORCH CLAMP CH1 J8-56
CP1A SH2 SYNC TIP CLAMP CH1, J8-14
IH1 SH1 INPUT HORIZONTAL CH1, J2C-2
054104-01
U556
EP610
CLK
FID_1
VCE_1
VBE_1
+5V
CLK
V_RST1 SH2 VERTICAL RESET CH1, J9-43
IV1 SH1 INPUT VERTICAL, J2C-3

GRASS VALLEY GROUP

SCHEMATIC DIAGRAM

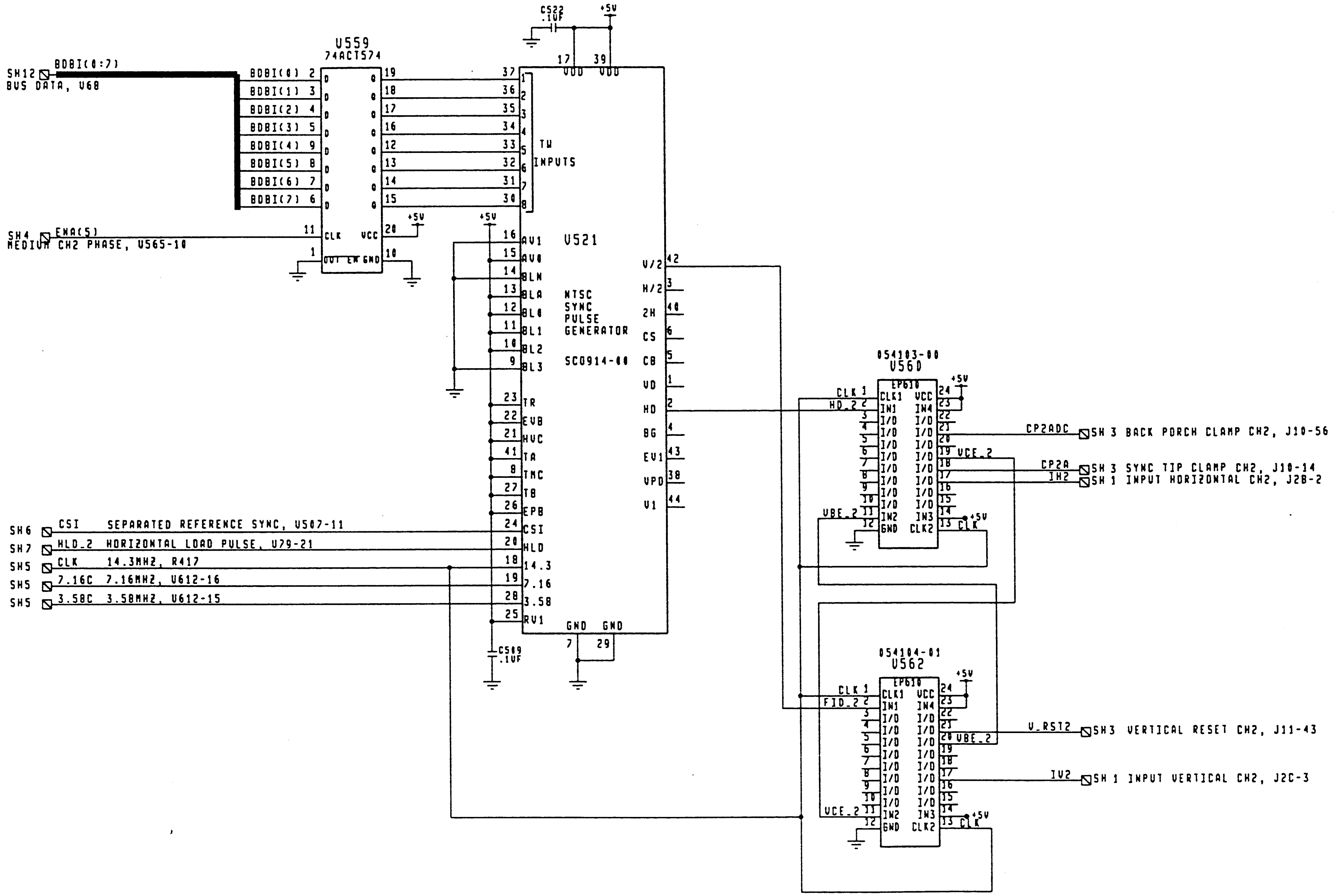
NTSC INTERFACE
COMPOSITE ANALOG/DIGITAL
SYNC PULSE GENERATOR
INPUT PULSE TIMING #1

SIZE	DRAWING NO.	REV
D	10-064702-03	A1

SCALE: NONE

SHEET 9 OF 24

SEE SHEET ONE FOR REVISIONS


SH12 BUS DATA, U68
BDBI(0:7)
U559
74ACT574
BDBI(0) 2
BDBI(1) 3
BDBI(2) 4
BDBI(3) 5
BDBI(4) 9
BDBI(5) 8
BDBI(6) 7
BDBI(7) 6
SH4 ENA(5)
MEDIUM CH2 PHASE, U565-10
CLK
VCC
OUT EN
GND
+5V
C522
.1UF
VDD
VDD
TW INPUTS
U521
NTSC SYNC PULSE GENERATOR
SC0914-00
AV1
AV0
BLN
BLA
BL0
BL1
BL2
BL3
TR
EVB
HVC
TA
TMC
TB
EPB
CSI
HLD
14.3
7.16
3.58
RV1
GND
GND
V/2
H/2
2H
CS
CB
VD
HD
BG
EV1
VPD
V1
C509
.1UF
SH6 CSI SEPARATED REFERENCE SYNC, U507-11
SH7 HLD_2 HORIZONTAL LOAD PULSE, U79-21
SH5 CLK 14.3MHZ, R417
SH5 7.16C 7.16MHZ, U612-16
SH5 3.58C 3.58MHZ, U612-15
054103-00
U560
EP610
CLK 1
HD_2
CLK1
IN1
IN2
IN3
IN4
I/O
VCC
GND
CLK2
VBE_2
VCE_2
+5V
CLK
CP2ADC
SH 3 BACK PORCH CLAMP CH2, J10-56
CP2A
SH 3 SYNC TIP CLAMP CH2, J10-14
IH2
SH 1 INPUT HORIZONTAL CH2, J2B-2
054104-01
U562
EP610
CLK 1
FID_2
VCE_2
VBE_2
V_RST2
SH3 VERTICAL RESET CH2, J11-43
IV2
SH 1 INPUT VERTICAL CH2, J2C-3

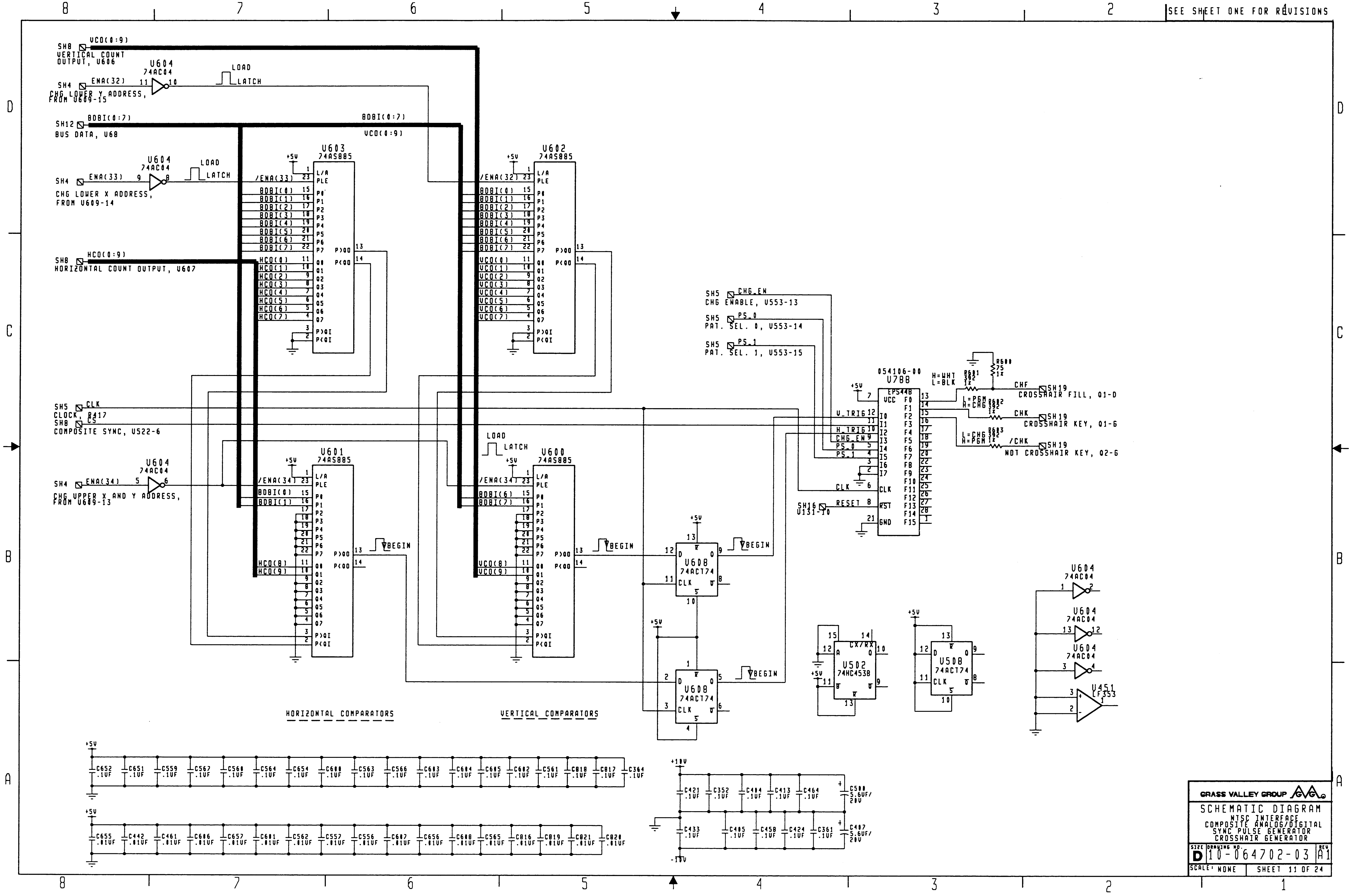
GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
NTSC INTERFACE
COMPOSITE ANALOG/DIGITAL
SYNC PULSE GENERATOR
INPUT PULSE TIMING #2

SIZE	DRAWING NO.	REV
D	10-064702-03	A1

SCALE: NONE
SHEET 10 OF 24

SEE SHEET ONE FOR REVISIONS


SH8 VCO(0:9)
VERTICAL COUNT OUTPUT, U606
SH4 ENA(32)
CHG LOWER Y ADDRESS, FROM U609-15
U604 74AC04
LOAD
LATCH
SH12 BDBI(0:7)
BUS DATA, U68
BDBI(0:7)
VCO(0:9)
SH4 ENA(33)
CHG LOWER X ADDRESS, FROM U609-14
SH8 HCO(0:9)
HORIZONTAL COUNT OUTPUT, U607
U603 74AS885
U602 74AS885
U601 74AS885
U600 74AS885
/ENA(33)
/ENA(32)
/ENA(34)
+5V
L/A
PLE
P>QO
P<QO
P>QI
P<QI
SH5 CLK
CLOCK, R417
SH8 CS
COMPOSITE SYNC, U522-6
SH4 ENA(34)
CHG UPPER X AND Y ADDRESS, FROM U609-13
BEGIN
U608 74AC174
SH5 CHG_EN
CHG ENABLE, U553-13
SH5 PS_0
PAT. SEL. 0, U553-14
SH5 PS_1
PAT. SEL. 1, U553-15
054106-00
U700
EP5448
V_TRIG
H_TRIG
CHG_EN
PS_0
PS_1
CLK
RESET
SH16 U131-10
H=WHT L=BLK
R601
R602
R603
R600
L=PGM H=CHG
L=CHG H=PGM
CHF
SH19 CROSSHAIR FILL, Q1-D
CHK
SH19 CROSSHAIR KEY, Q1-G
/CHK
SH19 NOT CROSSHAIR KEY, Q2-G
U502 74HC4538
U508 74AC174
U451 LF353
HORIZONTAL COMPARATORS
VERTICAL COMPARATORS
C652 C651 C559 C567 C560 C564 C654 C600 C563 C566 C603 C604 C605 C602 C561 C818 C817 C364 .1UF
C655 C442 C461 C606 C657 C601 C562 C557 C556 C607 C656 C608 C565 C816 C819 C821 C820 .01UF
+15V
-15V
C421 C352 C404 C413 C464 .1UF
C433 C405 C458 C424 C361 .1UF
C500 C407 5.6UF/20V
8 7 6 5 4 3 2 1
D C B A

GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
NTSC INTERFACE
COMPOSITE ANALOG/DIGITAL
SYNC PULSE GENERATOR
CROSSHAIR GENERATOR

SIZE D DRAWING NO. 10-064702-03 REV A1

SCALE: NONE SHEET 11 OF 24

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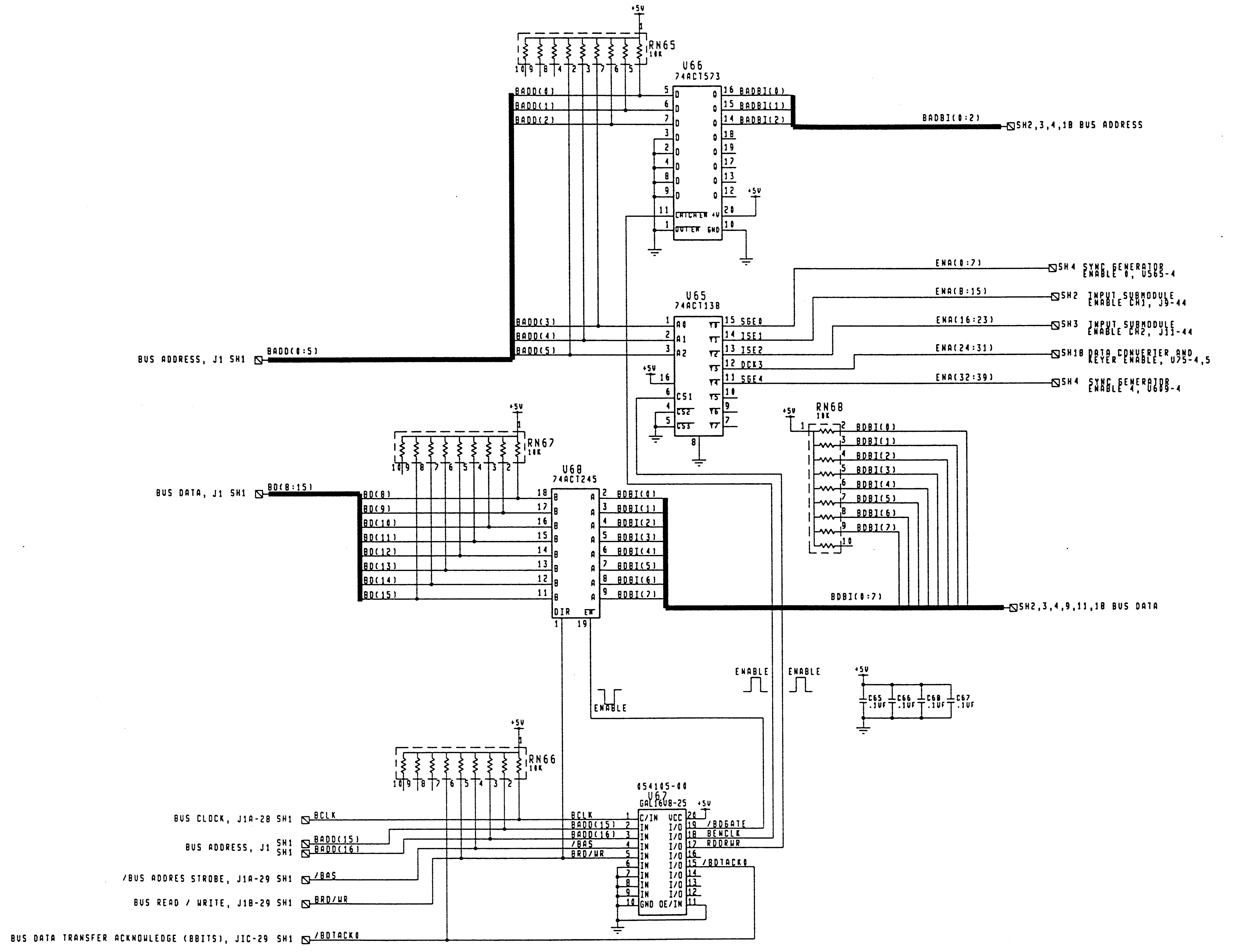
+5V
RN65
10K
U66
74ACT573
BADD(0)
BADD(1)
BADD(2)
BADBI(0)
BADBI(1)
BADBI(2)
BADBI(0:2)
SH2,3,4,18 BUS ADDRESS
D
O
CATCH EN
OUT EN
+V
GND
U65
74ACT138
BADD(3)
BADD(4)
BADD(5)
BADD(0:5)
BUS ADDRESS, J1 SH1
A0
A1
A2
CS1
CS2
CS3
SGE0
ISE1
ISE2
DCK3
SGE4
ENA(0:7)
SH4 SYNC GENERATOR ENABLE 0, U565-4
ENA(8:15)
SH2 INPUT SUBMODULE ENABLE CH1, J9-44
ENA(16:23)
SH3 INPUT SUBMODULE ENABLE CH2, J11-44
ENA(24:31)
SH18 DATA CONVERTER AND KEYER ENABLE, U75-4,5
ENA(32:39)
SH4 SYNC GENERATOR ENABLE 4, U609-4
RN67
10K
U68
74ACT245
BUS DATA, J1 SH1
BD(8:15)
BD(8)
BD(9)
BD(10)
BD(11)
BD(12)
BD(13)
BD(14)
BD(15)
B
A
DIR
EN
BDBI(0)
BDBI(1)
BDBI(2)
BDBI(3)
BDBI(4)
BDBI(5)
BDBI(6)
BDBI(7)
BDBI(0:7)
SH2,3,4,9,11,18 BUS DATA
RN68
10K
ENABLE
ENABLE
ENABLE
C65 .1UF
C66 .1UF
C68 .1UF
C67 .1UF
RN66
10K
054105-00
U67
GAL16V8-25
BUS CLOCK, J1A-28 SH1
BCLK
BUS ADDRESS, J1 SH1 BADD(15)
SH1 BADD(16)
/BUS ADDRES STROBE, J1A-29 SH1
/BAS
BUS READ / WRITE, J1B-29 SH1
BRD/WR
BUS DATA TRANSFER ACKNOWLEDGE (8BITS), J1C-29 SH1
/BDTACK0
C/IN
IN
GND
VCC
I/O
OE/IN
/BDGATE
BENCLK
RDDRWR

GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
NTSC INTERFACE
COMPOSITE ANALOG/DIGITAL

SIZE	DRAWING NO.	REV
D	10-064702-03	A1

SCALE: NONE
SHEET 12 OF 24

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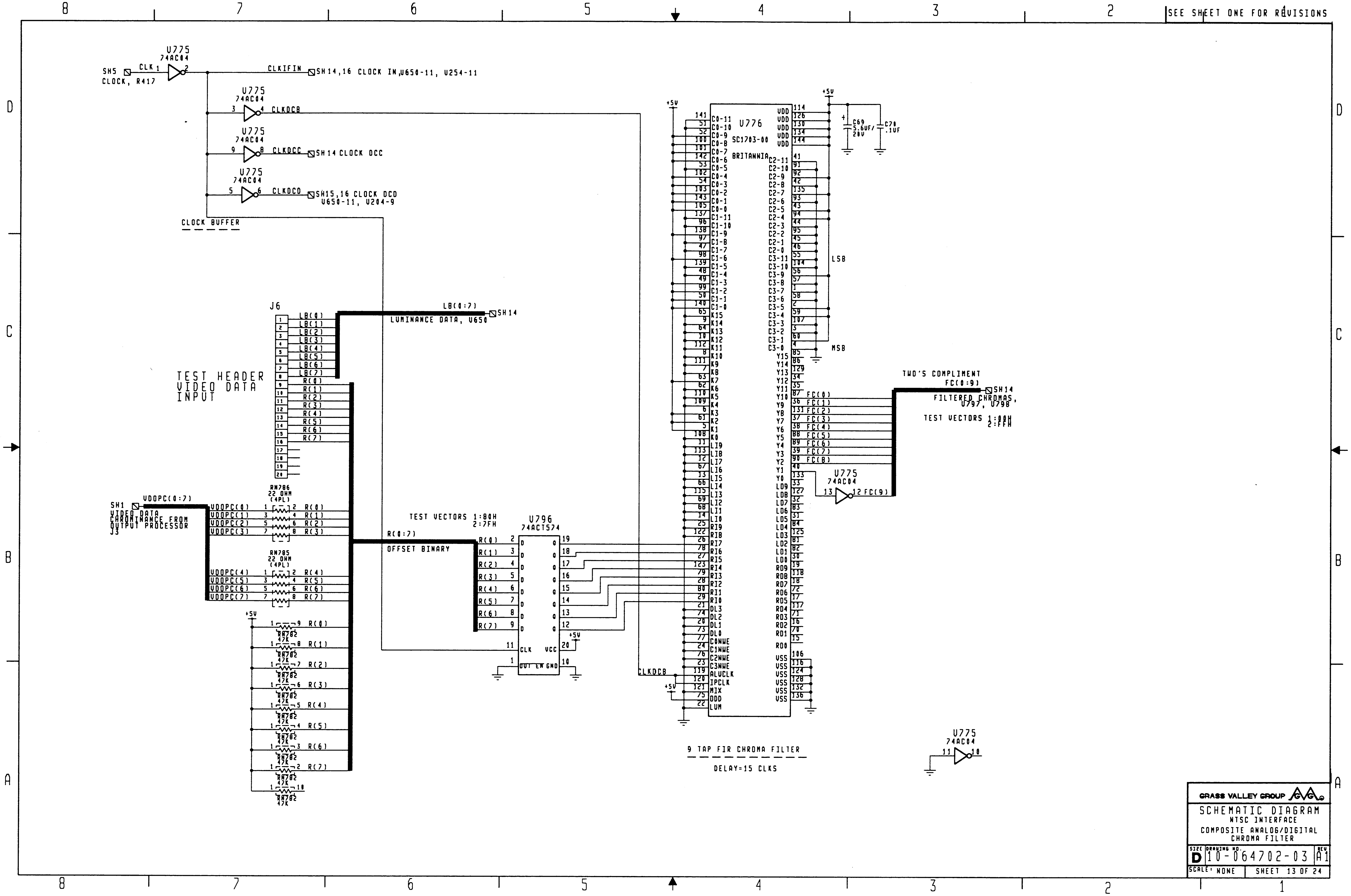

U775
74AC04
SH5
CLOCK, R417
CLK
CLKIFIN
SH14,16 CLOCK IN,U650-11, U254-11
CLKDCB
CLKDCC
SH14 CLOCK DCC
CLKDCD
SH15,16 CLOCK DCD
U650-11, U204-9
CLOCK BUFFER
J6
LB(0:7)
SH14
LUMINANCE DATA, U650
LB(0)
LB(1)
LB(2)
LB(3)
LB(4)
LB(5)
LB(6)
LB(7)
R(0)
R(1)
R(2)
R(3)
R(4)
R(5)
R(6)
R(7)
TEST HEADER
VIDEO DATA
INPUT
SH1
VIDEO DATA
CHROMINANCE FROM
OUTPUT PROCESSOR
J3
VDOPC(0:7)
VDOPC(0)
VDOPC(1)
VDOPC(2)
VDOPC(3)
VDOPC(4)
VDOPC(5)
VDOPC(6)
VDOPC(7)
RN786
22 OHM
(4PL)
RN785
22 OHM
(4PL)
+5V
RN782
47K
TEST VECTORS 1:80H
2:7FH
R(0:7)
OFFSET BINARY
U796
74ACT574
CLK
VCC
OUT EN
GND
+5V
U776
SC1703-00
BRITANNIA
C0-11
C0-10
C0-9
C0-8
C0-7
C0-6
C0-5
C0-4
C0-3
C0-2
C0-1
C0-0
C1-11
C1-10
C1-9
C1-8
C1-7
C1-6
C1-5
C1-4
C1-3
C1-2
C1-1
C1-0
K15
K14
K13
K12
K11
K10
K9
K8
K7
K6
K5
K4
K3
K2
K1
K0
LI9
LI8
LI7
LI6
LI5
LI4
LI3
LI2
LI1
LI0
RI9
RI8
RI7
RI6
RI5
RI4
RI3
RI2
RI1
RI0
DL3
DL2
DL1
DL0
C0NWE
C1NWE
C2NWE
C3NWE
ALUCLK
IPCLK
MIX
ODD
LUM
VDD
C2-11
C2-10
C2-9
C2-8
C2-7
C2-6
C2-5
C2-4
C2-3
C2-2
C2-1
C2-0
C3-11
C3-10
C3-9
C3-8
C3-7
C3-6
C3-5
C3-4
C3-3
C3-2
C3-1
C3-0
Y15
Y14
Y13
Y12
Y11
Y10
Y9
Y8
Y7
Y6
Y5
Y4
Y3
Y2
Y1
Y0
LO9
LO8
LO7
LO6
LO5
LO4
LO3
LO2
LO1
LO0
RO9
RO8
RO7
RO6
RO5
RO4
RO3
RO2
RO1
RO0
VSS
LSB
MSB
C69
5.6UF/
20V
C70
.1UF
CLKDCB
TWO'S COMPLIMENT
FC(0:9)
SH14
FILTERED CHROMAS,
U797, U798
TEST VECTORS 1:00H
2:FFH
FC(0)
FC(1)
FC(2)
FC(3)
FC(4)
FC(5)
FC(6)
FC(7)
FC(8)
FC(9)
9 TAP FIR CHROMA FILTER
DELAY=15 CLKS
8
7
6
5
4
3
2
1
D
C
B
A

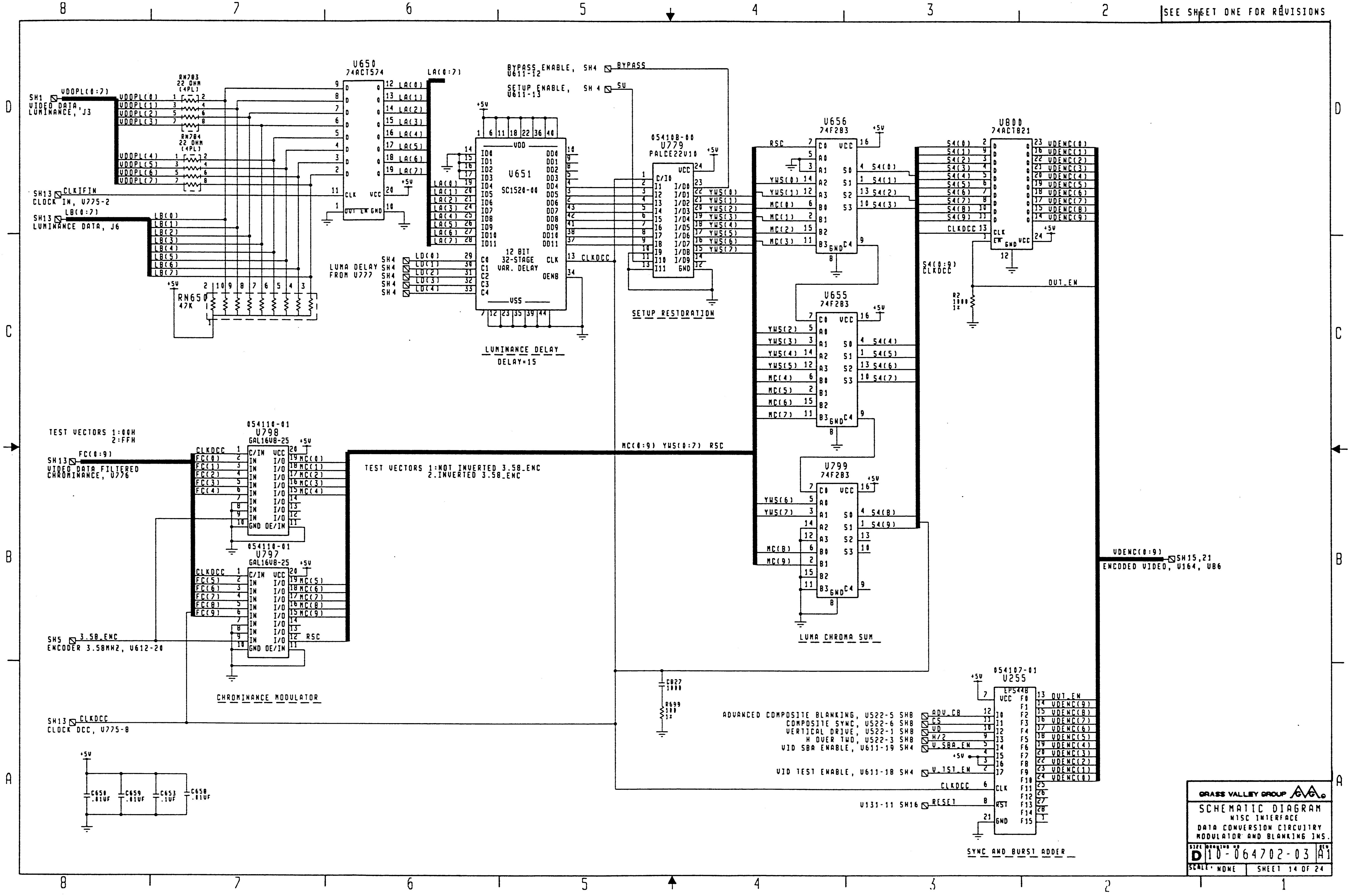
GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
NTSC INTERFACE
COMPOSITE ANALOG/DIGITAL
CHROMA FILTER

SIZE	DRAWING NO.	REV
D	10-064702-03	A1

SCALE: NONE
SHEET 13 OF 24

SEE SHEET ONE FOR REVISIONS

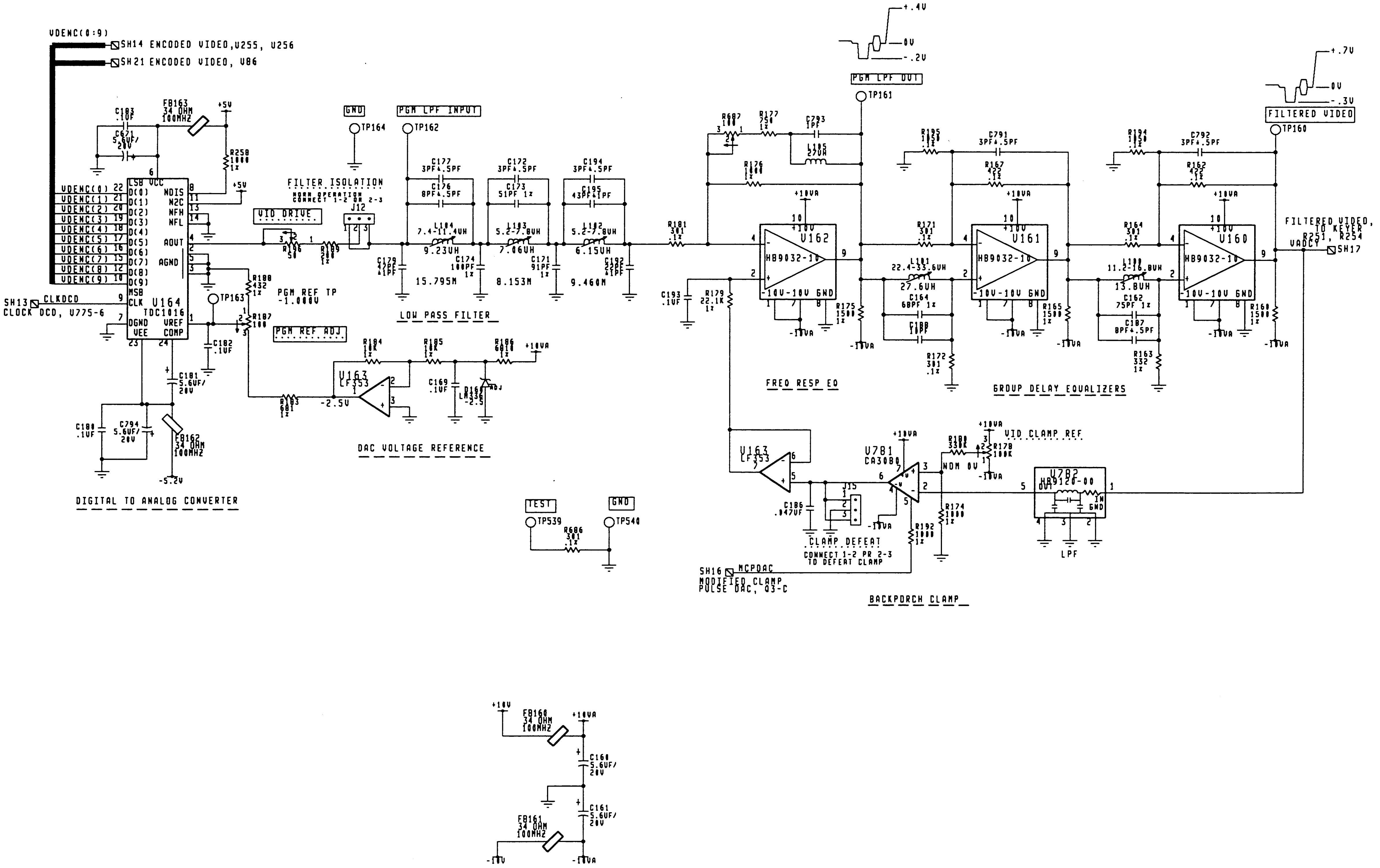

U650
74ACT574
LA(0:7)
SH1 VDOPL(0:7) VIDEO DATA, LUMINANCE, J3
RN783 22 OHM (4PL)
RN784 22 OHM (4PL)
SH13 CLKIFIN CLOCK IN, U775-2
SH13 LB(0:7) LUMINANCE DATA, J6
RN650 47K
BYPASS ENABLE, SH4 BYPASS U611-12
SETUP ENABLE, SH 4 SU U611-13
U651
SC1520-00
12 BIT 32-STAGE VAR. DELAY
LUMA DELAY FROM U777
LUMINANCE DELAY
DELAY=15
054108-00
U779
PALCE22V10
SETUP RESTORATION
CLKDCC
U656
74F283
U655
74F283
U799
74F283
LUMA CHROMA SUM
U800
74ACT821
OUT_EN
S4(0:9) CLKDCC
VDENC(0:9) SH15,21 ENCODED VIDEO, U164, U86
TEST VECTORS 1:00H 2:FFH
SH13 FC(0:9) VIDEO DATA FILTERED CHROMINANCE, U776
054110-01
U798
GAL16V8-25
MC(0:9) YVS(0:7) RSC
TEST VECTORS 1:NOT INVERTED 3.58_ENC 2.INVERTED 3.58_ENC
054110-01
U797
GAL16V8-25
SH5 3.58_ENC ENCODER 3.58MHZ, U612-20
CHROMINANCE MODULATOR
SH13 CLKDCC CLOCK DCC, U775-8
C650 .01UF
C659 .01UF
C653 .1UF
C658 .01UF
C827 1000
R699 100 1%
054107-01
U255
EP544B
ADVANCED COMPOSITE BLANKING, U522-5 SH8 ADV_CB
COMPOSITE SYNC, U522-6 SH8 CS
VERTICAL DRIVE, U522-1 SH8 VD
H OVER TWO, U522-3 SH8 H/2
VID SBA ENABLE, U611-19 SH4 V_SBA_EN
VID TEST ENABLE, U611-18 SH4 V_TST_EN
U131-11 SH16 RESET
SYNC AND BURST ADDER

GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
NTSC INTERFACE
DATA CONVERSION CIRCUITRY
MODULATOR AND BLANKING INS.

SIZE	DRAWING NO	REV
D	10-064702-03	A1
SCALE: NONE	SHEET 14 OF 24	

SEE SHEET ONE FOR REVISIONS


VDENC(0:9)
SH14 ENCODED VIDEO, U255, U256
SH21 ENCODED VIDEO, U86
C183 .1UF
C671 5.6UF/ 20V
FB163 34 OHM 100MHZ
+5V
R258 1000 1%
VDENC(0) … VDENC(9)
U164 TDC1016
LSB VCC D(0) D(1) D(2) D(3) D(4) D(5) D(6) D(7) D(8) D(9) MSB CLK DGND VEE NDIS N2C NFH NFL AOUT AGND VREF COMP
SH13 CLKDCD
CLOCK DCD, U775-6
C182 .1UF
C181 5.6UF/ 20V
C180 .1UF
C794 5.6UF/ 20V
FB162 34 OHM 100MHZ
-5.2V
DIGITAL TO ANALOG CONVERTER
TP163
R188 432 1%
R187 100
PGM REF TP -1.000V
PGM REF ADJ
U163 LF353
R183 681 1%
-2.5V
R184 10K 1%
R185 10K 1%
R186 6010 1%
+10VA
C169 .1UF
D160 LM336 -2.5
ADJ
DAC VOLTAGE REFERENCE
VID DRIVE
R156 50
R189 200 1%
FILTER ISOLATION
NORM OPERATION CONNECT 1-2 OR 2-3
J12
GND
TP164
PGM LPF INPUT
TP162
C177 3PF±.5PF
C176 8PF±.5PF
L184 7.4-11.4UH 9.23UH
C179 47PF ±1PF
C174 100PF 1%
15.795M
C172 3PF±.5PF
C173 51PF 1%
L183 5.2-7.8UH 7.06UH
C171 91PF 1%
8.153M
C194 3PF±.5PF
C195 43PF±1PF
L182 5.2-7.8UH 6.15UH
C192 22PF ±1PF
9.460M
LOW PASS FILTER
R181 301 .1%
C193 .1UF
R179 22.1K 1%
R687 100
R177 750 1%
C793 1PF
L185 27UH
R176 1000 1%
PGM LPF OUT
TP161
+.4V
0V
-.2V
U162 HB9032-10
+10VA
-10VA
R175 1500 1%
FREQ RESP EQ
R195 1050 .1%
C791 3PF±.5PF
R167 422 .1%
R171 301 .1%
U161 HB9032-10
L181 22.4-33.6UH 27.6UH
C164 68PF 1%
C188 10PF
R172 301 .1%
R165 1500 1%
R194 1050 .1%
C792 3PF±.5PF
R162 422 .1%
R164 301 .1%
U160 HB9032-10
L180 11.2-16.8UH 13.8UH
C162 75PF 1%
C187 8PF±.5PF
R163 332 1%
R160 1500 1%
GROUP DELAY EQUALIZERS
FILTERED VIDEO
TP160
+.7V
0V
-.3V
FILTERED VIDEO, TO KEYER R251, R254
VADCY
SH17
U163 LF353
C186 .047UF
J15
CLAMP DEFEAT
CONNECT 1-2 PR 2-3 TO DEFEAT CLAMP
U781 CA3080
R180 330K
R178 100K
VID CLAMP REF
NOM 0V
R174 1000 1%
R192 1000 1%
SH16 MCPDAC
MODIFIED CLAMP PULSE DAC, Q3-C
U782 HB9120-00
OUT IN GND
LPF
BACKPORCH CLAMP
TEST
TP539
R606 301 .1%
GND
TP540
+10V
FB160 34 OHM 100MHZ
C160 5.6UF/ 20V
C161 5.6UF/ 20V
FB161 34 OHM 100MHZ
-10V
-10VA

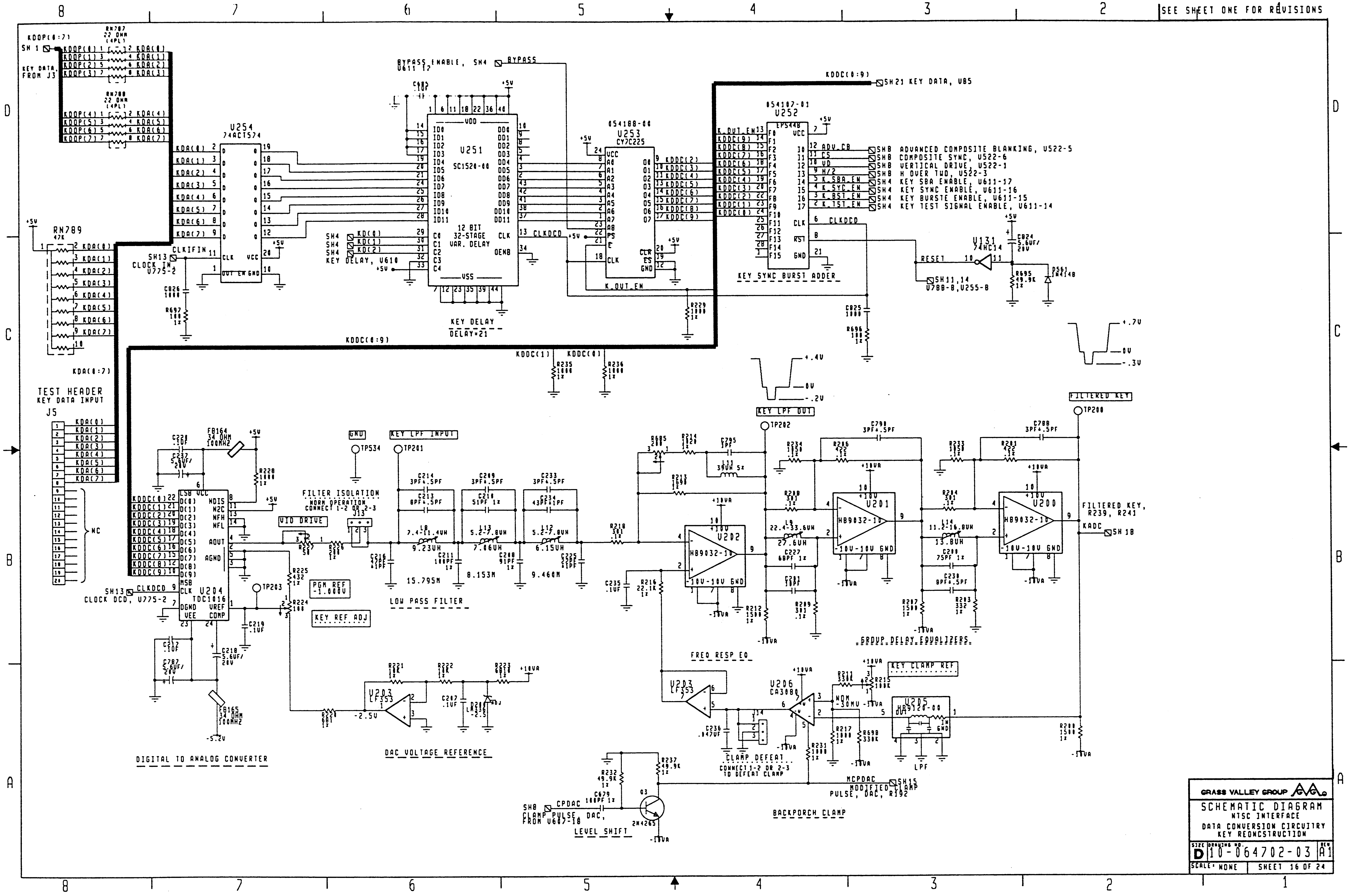
GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
NTSC INTERFACE
DATA CONVERSION CIRCUITRY
VID RECONSTRUCTION

SIZE	DRAWING NO.	REV
D	10-064702-03	A1

SCALE: NONE
SHEET 15 OF 24

SEE SHEET ONE FOR REVISIONS



KDOP(0:7)
RN787 22 OHM (4PL)
RN788 22 OHM (4PL)
KEY DATA, FROM J3
U254 74ACT574
CLKIFIN
SH13 CLOCK IN U775-2
BYPASS ENABLE, SH4 U611-12
BYPASS
U251 SC1520-00
12 BIT 32-STAGE VAR. DELAY
KEY DELAY
DELAY=21
KD(0) KD(1) KD(2)
KEY DELAY, U610
054188-00 U253 CY7C225
K_OUT_EN
CLKDCD
KDDC(0:9)
SH21 KEY DATA, U85
054187-01 U252 EP544B
KEY SYNC BURST ADDER
SH8 ADVANCED COMPOSITE BLANKING, U522-5
SH8 COMPOSITE SYNC, U522-6
SH8 VERTICAL DRIVE, U522-1
SH8 H OVER TWO, U522-3
SH4 KEY SBA ENABLE, U611-17
SH4 KEY SYNC ENABLE, U611-16
SH4 KEY BURSTE ENABLE, U611-15
SH4 KEY TEST SIGNAL ENABLE, U611-14
RESET
SH11,14 U788-8,U255-8
U131 74HC14
RN789 47K
KDA(0:7)
TEST HEADER KEY DATA INPUT
J5
NC
+.7V 0V -.3V
+.4V 0V -.2V
KEY LPF OUT TP202
FILTERED KEY TP200
U204 TDC1016
SH13 CLKDCD CLOCK DCD, U775-2
FB164 34 OHM 100MHZ
FB165 34 OHM 100MHZ
DIGITAL TO ANALOG CONVERTER
TP203
PGM REF -1.000V
KEY REF ADJ
VID DRIVE
FILTER ISOLATION NORM OPERATION CONNECT 1-2 OR 2-3
J13
GND TP534
KEY LPF INPUT TP201
LOW PASS FILTER
15.795M 8.153M 9.460M
U202 HB9032-10
U201 HB9032-10
U200 HB9032-10
GROUP DELAY EQUALIZERS
FREQ RESP EQ
FILTERED KEY, R239, R241
KADC SH 18
U203 LF353
DAC VOLTAGE REFERENCE
-2.5V
U206 CA3080
KEY CLAMP REF
NOM -30MV
U205 HB9120-00
LPF
CLAMP DEFEAT
CONNECT 1-2 OR 2-3 TO DEFEAT CLAMP
J14
SH8 CPDAC CLAMP PULSE, DAC, FROM U607-18
Q3 2N4265
LEVEL SHIFT
MCPDAC SH15 MODIFIED CLAMP PULSE, DAC, R192
BACKPORCH CLAMP

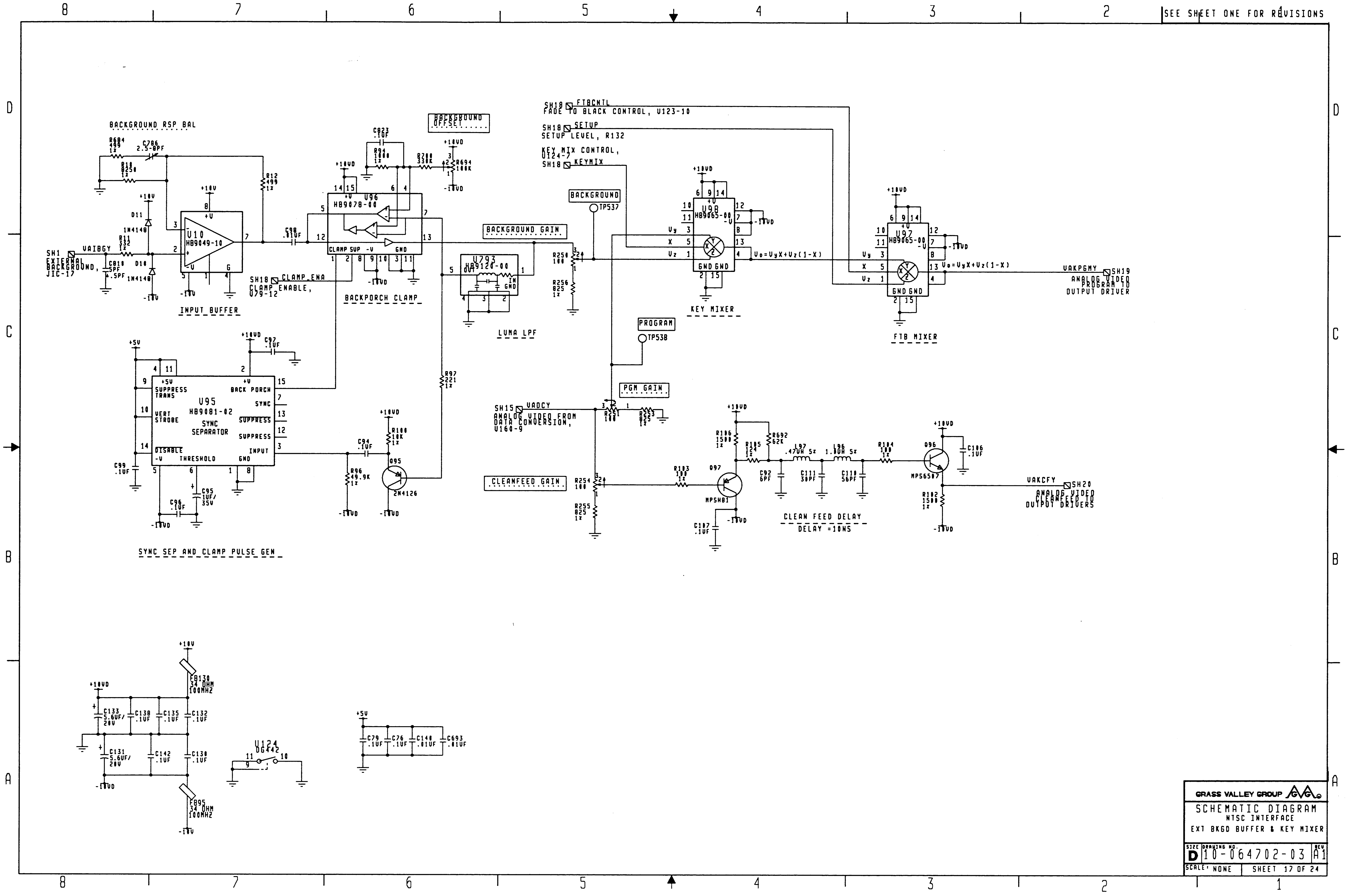
GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
NTSC INTERFACE
DATA CONVERSION CIRCUITRY
KEY RECONSTRUCTION

SIZE	DRAWING NO.	REV
D	10-064702-03	A1

SCALE: NONE | SHEET 16 OF 24

SEE SHEET ONE FOR REVISIONS

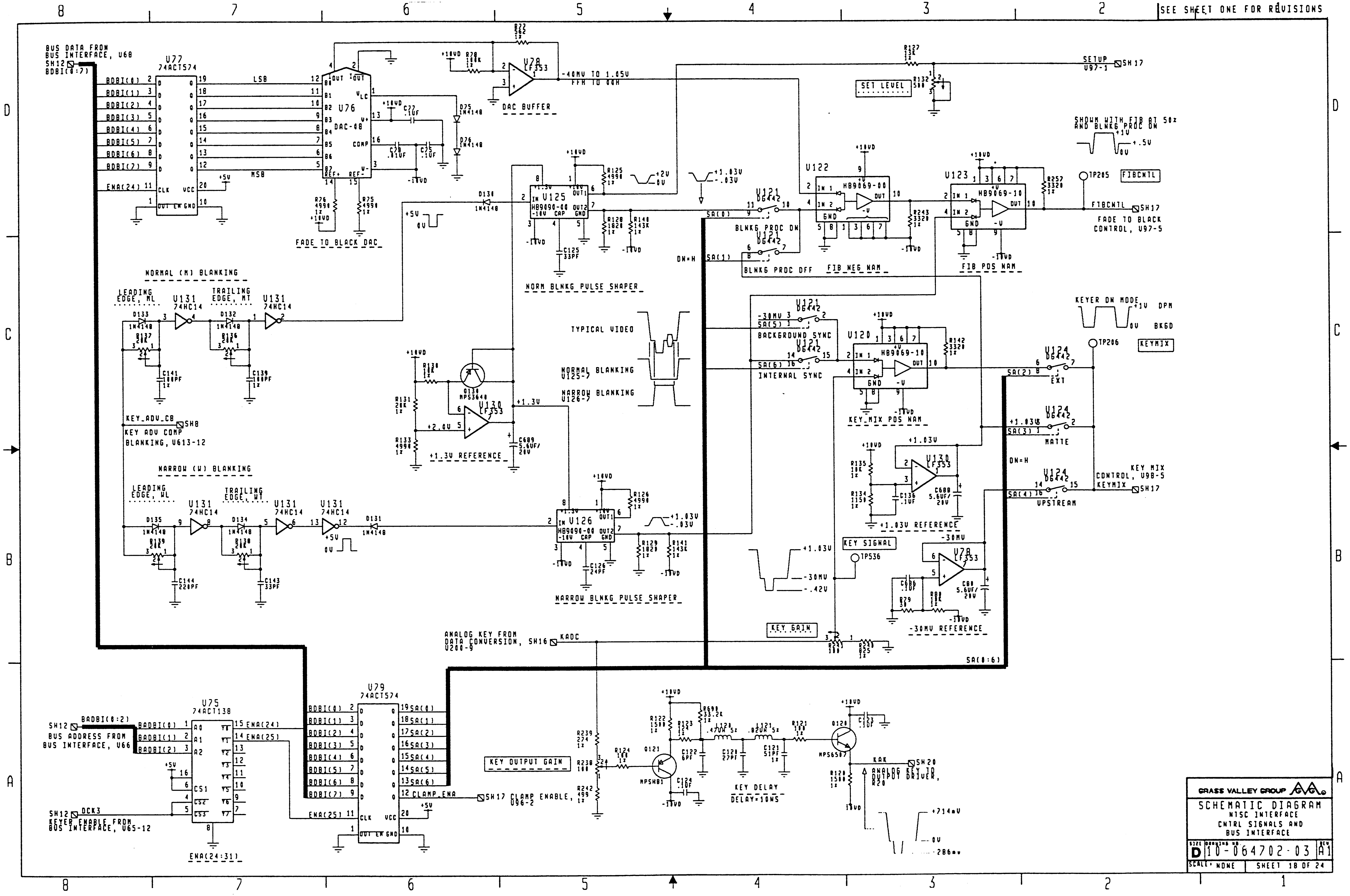

BACKGROUND RSP BAL
R684 499 1%
C786 2.5-8PF
R10 8250 1%
R12 499 1%
+10V
D11 1N4148
R11 332 1%
SH1 VAIBGY
EXTERNAL BACKGROUND, J1C-17
C810 5PF
4.5PF
D10 1N4148
U10 HB9049-10
INPUT BUFFER
C98 .01UF
C823 .1UF
R94 1000 1%
R700 330K
R694 100K
+10VD
-10VD
U96 HB9078-00
CLAMP SUP -V GND
SH18 CLAMP ENA
CLAMP ENABLE, U79-12
BACKPORCH CLAMP
BACKGROUND OFFSET
U793 HB9120-00
LUMA LPF
BACKGROUND GAIN
R250 100
R256 825 1%
SH18 FTBCNTL
FADE TO BLACK CONTROL, U123-10
SH18 SETUP
SETUP LEVEL, R132
KEY MIX CONTROL, U124-7
SH18 KEYMIX
BACKGROUND
TP537
U98 HB9065-00
Vo=VyX+Vz(1-X)
KEY MIXER
U97 HB9065-00
Vo=VyX+Vz(1-X)
FTB MIXER
VAKPGMY SH19
ANALOG VIDEO PROGRAM TO OUTPUT DRIVER
PROGRAM
TP538
PGM GAIN
SH15 VADCY
ANALOG VIDEO FROM DATA CONVERSION, U160-9
R251 100
R253 825 1%
+5V
U95 HB9081-02
SYNC SEPARATOR
SUPPRESS TRANS
VERT STROBE
DISABLE
THRESHOLD
BACK PORCH
SYNC
SUPPRESS
INPUT
GND
C97 .1UF
C99 .1UF
C95 1UF/35V
C96 .1UF
C94 .1UF
R96 49.9K 1%
R100 10K 1%
Q95 2N4126
R97 221 1%
SYNC SEP AND CLAMP PULSE GEN
CLEANFEED GAIN
R254 100
R255 825 1%
R103 100 1%
Q97 MPSH81
C107 .1UF
R106 1500 1%
R105 124 1%
R692 62K
C92 6PF
L97 .47UH 5%
C111 30PF
L96 1.0UH 5%
C110 56PF
R104 100 1%
Q96 MPS6507
C106 .1UF
R102 1500 1%
VAKCFY SH20
ANALOG VIDEO CLEANFEED TO OUTPUT DRIVERS
CLEAN FEED DELAY
DELAY =10NS
FB130 34 OHM 100MHZ
C133 5.6UF/20V
C138 .1UF
C135 .1UF
C132 .1UF
C131 5.6UF/20V
C142 .1UF
C130 .1UF
FB95 34 OHM 100MHZ
U124 DG442
C79 .1UF
C76 .1UF
C140 .01UF
C693 .01UF

GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
NTSC INTERFACE
EXT BKGD BUFFER & KEY MIXER

SIZE D DRAWING NO. 10-064702-03 REV A1
SCALE: NONE SHEET 17 OF 24

SEE SHEET ONE FOR REVISIONS


BUS DATA FROM BUS INTERFACE, U68
SH12 BDBI(0:7)
U77 74ACT574
LSB
MSB
ENA(24)
U76 DAC-08
FADE TO BLACK DAC
U78 LF353
-40MV TO 1.05V FFH TO 00H
DAC BUFFER
SETUP U97-1 SH17
SET LEVEL
R127
R132 500
U122 HB9069-00
FIB NEG NAM
U123 HB9069-10
FIB POS NAM
SHOWN WITH FIB AT 50% AND BLNKG PROC ON
TP205
FIBCNTL
FIBCNTL SH17
FADE TO BLACK CONTROL, U97-5
U125 HB9090-00
NORM BLNKG PULSE SHAPER
+2V -0V
+1.03V -.03V
U121 DG442
SA(0)
BLNKG PROC ON
SA(1)
BLNKG PROC OFF
ON=H
NORMAL (N) BLANKING
LEADING EDGE, NL
TRAILING EDGE, NT
U131 74HC14
TYPICAL VIDEO
NORMAL BLANKING U125-7
NARROW BLANKING U126-7
Q130 MPS3640
U130 LF353
+1.3V
+2.0V
+1.3V REFERENCE
KEY ADV CB SH8
KEY ADV COMP BLANKING, U613-12
NARROW (W) BLANKING
LEADING EDGE, WL
TRAILING EDGE, WT
U126 HB9090-00
NARROW BLNKG PULSE SHAPER
-30MV SA(5)
BACKGROUND SYNC
SA(6)
INTERNAL SYNC
U120 HB9069-10
KEY MIX POS NAM
KEYER ON MODE
+1V DPM
0V BKGD
TP206
KEYMIX
U124 DG442
SA(2) EXT
+1.03V SA(3) MATTE
ON=H
KEY MIX CONTROL, U98-5
KEYMIX SH17
SA(4) UPSTREAM
U130 LF353
+1.03V REFERENCE
KEY SIGNAL
TP536
+1.03V
-30MV
-.42V
U78 LF353
-30MV REFERENCE
KEY GAIN
ANALOG KEY FROM DATA CONVERSION, SH16 U200-9
KADC
SA(0:6)
U75 74ACT138
SH12 BADBI(0:2)
BUS ADDRESS FROM BUS INTERFACE, U66
SH12 DCK3
KEYER ENABLE FROM BUS INTERFACE, U65-12
ENA(24:31)
U79 74ACT574
12 CLAMP ENA
SH17 CLAMP ENABLE, U96-2
KEY OUTPUT GAIN
Q121 MPSH81
KEY DELAY DELAY=10NS
Q120 MPS6507
KAK SH20
ANALOG KEY TO OUTPUT DRIVER, R20
+714mV
0V
-286mv

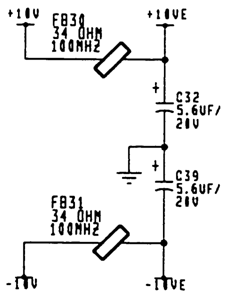
GRASS VALLEY GROUP

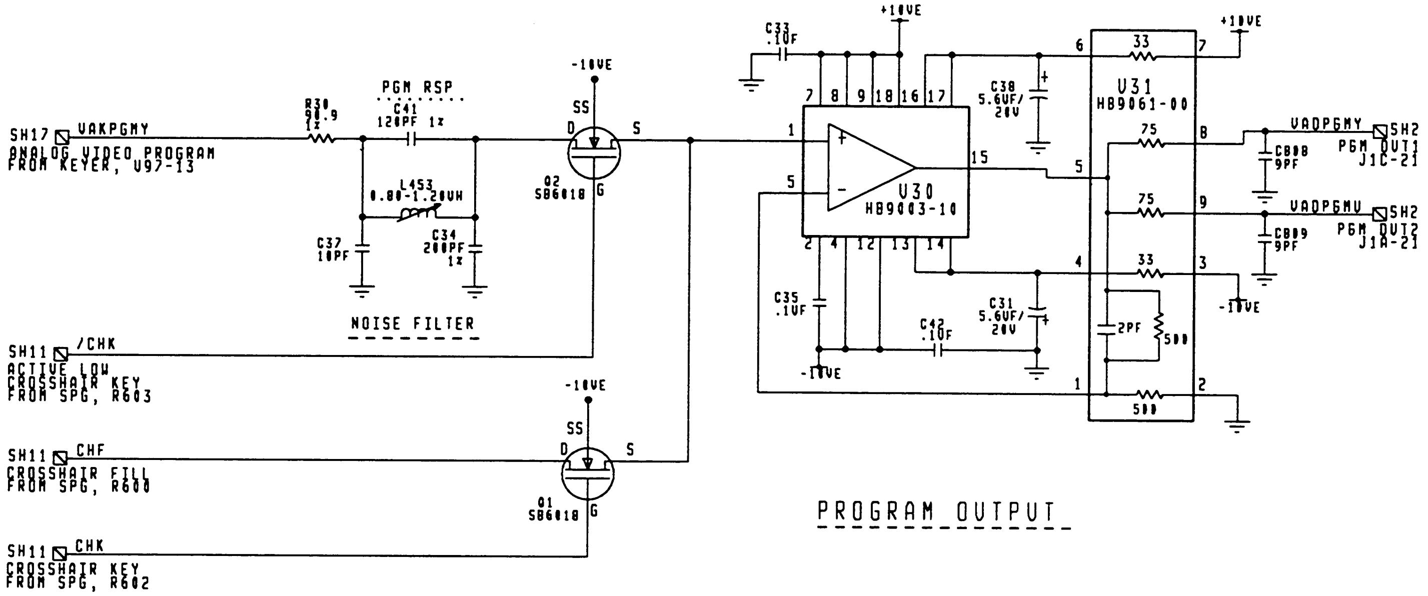
SCHEMATIC DIAGRAM
NTSC INTERFACE
CNTRL SIGNALS AND
BUS INTERFACE

SIZE D DRAWING NO 10-064702-03 REV A1

SCALE: NONE SHEET 18 OF 24

SEE SHEET ONE FOR REVISIONS


+10V
FB30
34 OHM
100MHZ
+10VE
C32
5.6UF/
20V
C39
5.6UF/
20V
FB31
34 OHM
100MHZ
-10V
-10VE


SH17
VAKPGMY
ANALOG VIDEO PROGRAM
FROM KEYER, U97-13
R30
90.9
1%
PGM RSP
C41
120PF 1%
L453
0.80-1.20UH
C37
10PF
C34
200PF
1%
NOISE FILTER
-10VE
SS
D
S
G
Q2
SB6010
SH11
/CHK
ACTIVE LOW
CROSSHAIR KEY
FROM SPG, R603
-10VE
SS
D
S
G
Q1
SB6010
SH11
CHF
CROSSHAIR FILL
FROM SPG, R600
SH11
CHK
CROSSHAIR KEY
FROM SPG, R602
C33
.1UF
+10VE
7
8
9
10
16
17
1
5
+
-
U30
HB9003-10
15
2
4
12
13
14
C35
.1UF
-10VE
C42
.1UF
C38
5.6UF/
20V
C31
5.6UF/
20V
6
33
7
+10VE
U31
HB9061-00
75
8
5
75
9
4
33
3
-10VE
2PF
500
1
500
2
VADPGMY
SH2
PGM OUT1
J1C-21
C808
9PF
VADPGMV
SH2
PGM OUT2
J1A-21
C809
9PF

PROGRAM OUTPUT

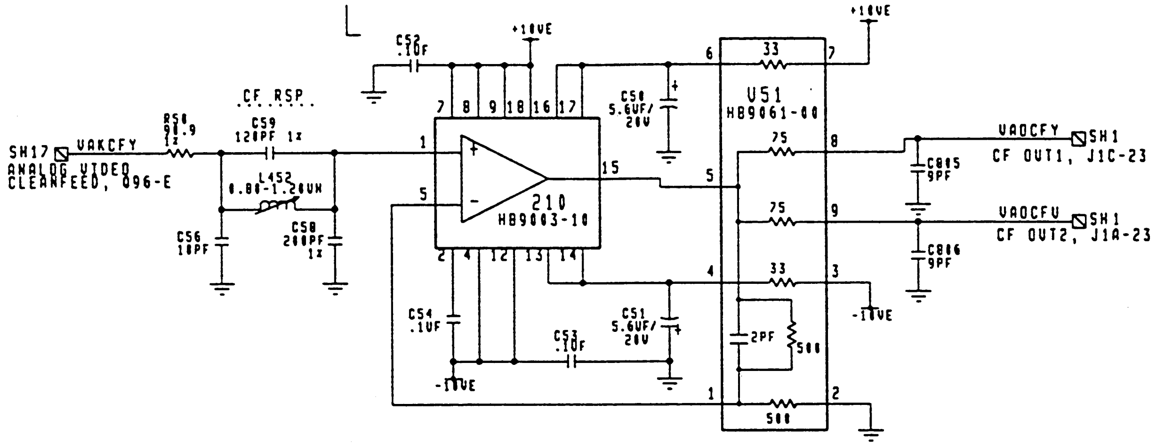
GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
NTSC INTERFACE
PROGRAM AND KEY OUTPUTS

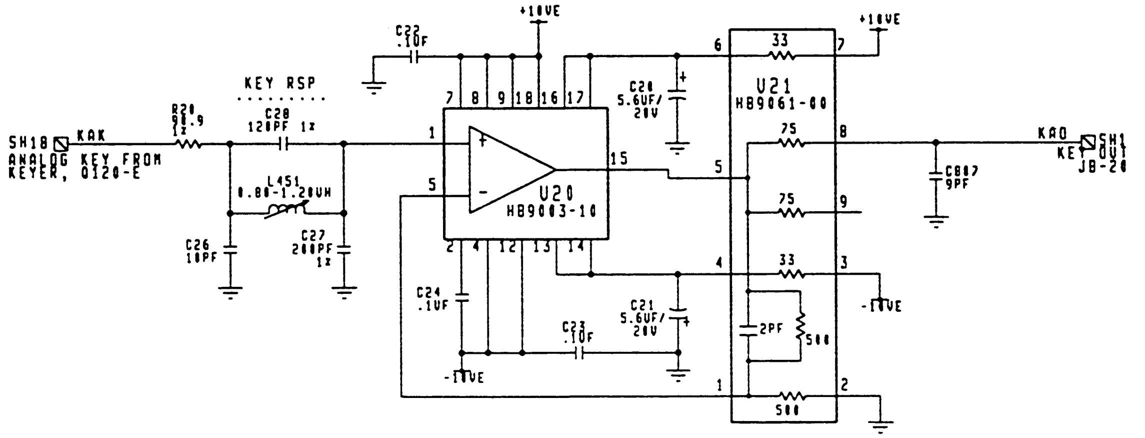
SIZE	DRAWING NO.	REV
D	10-064702-03	A1

SCALE: NONE
SHEET 19 OF 24

SEE SHEET ONE FOR REVISIONS


L
C52
.10F
+10VE
+10VE
CF RSP
R50
90.9
1%
C59
120PF 1%
SH17
VAKCFY
ANALOG VIDEO
CLEANFEED, 096-E
L452
0.80-1.20UH
C56
10PF
C58
200PF
1%
7
8
9
10
16
17
1
5
15
2
4
12
13
14
210
HB9003-10
C50
5.6UF/
20V
C54
.1UF
C53
.10F
C51
5.6UF/
20V
-10VE
U51
HB9061-00
6
33
7
75
8
5
75
9
4
33
3
2PF
500
1
500
2
-10VE
C805
9PF
C806
9PF
VAOCFY
SH1
CF OUT1, J1C-23
VAOCFV
SH1
CF OUT2, J1A-23

CLEANFEED OUTPUT


C22
.10F
+10VE
+10VE
KEY RSP
R20
90.9
1%
C28
120PF 1%
SH18
KAK
ANALOG KEY FROM
KEYER, 0120-E
L451
0.80-1.20UH
C26
10PF
C27
200PF
1%
7
8
9
10
16
17
1
5
15
2
4
12
13
14
U20
HB9003-10
C20
5.6UF/
20V
C24
.1UF
C23
.10F
C21
5.6UF/
20V
-10VE
U21
HB9061-00
6
33
7
75
8
5
75
9
4
33
3
2PF
500
1
500
2
-10VE
C807
9PF
KAO
SH1
KEY OUT
J8-20

KEY OUTPUT

GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
NTSC INTERFACE
COMPOSITE ANALOG/DIGITAL

SIZE	DRAWING NO.	REV
D	10-064702-03	A1

SCALE: NONE
SHEET 20 OF 24

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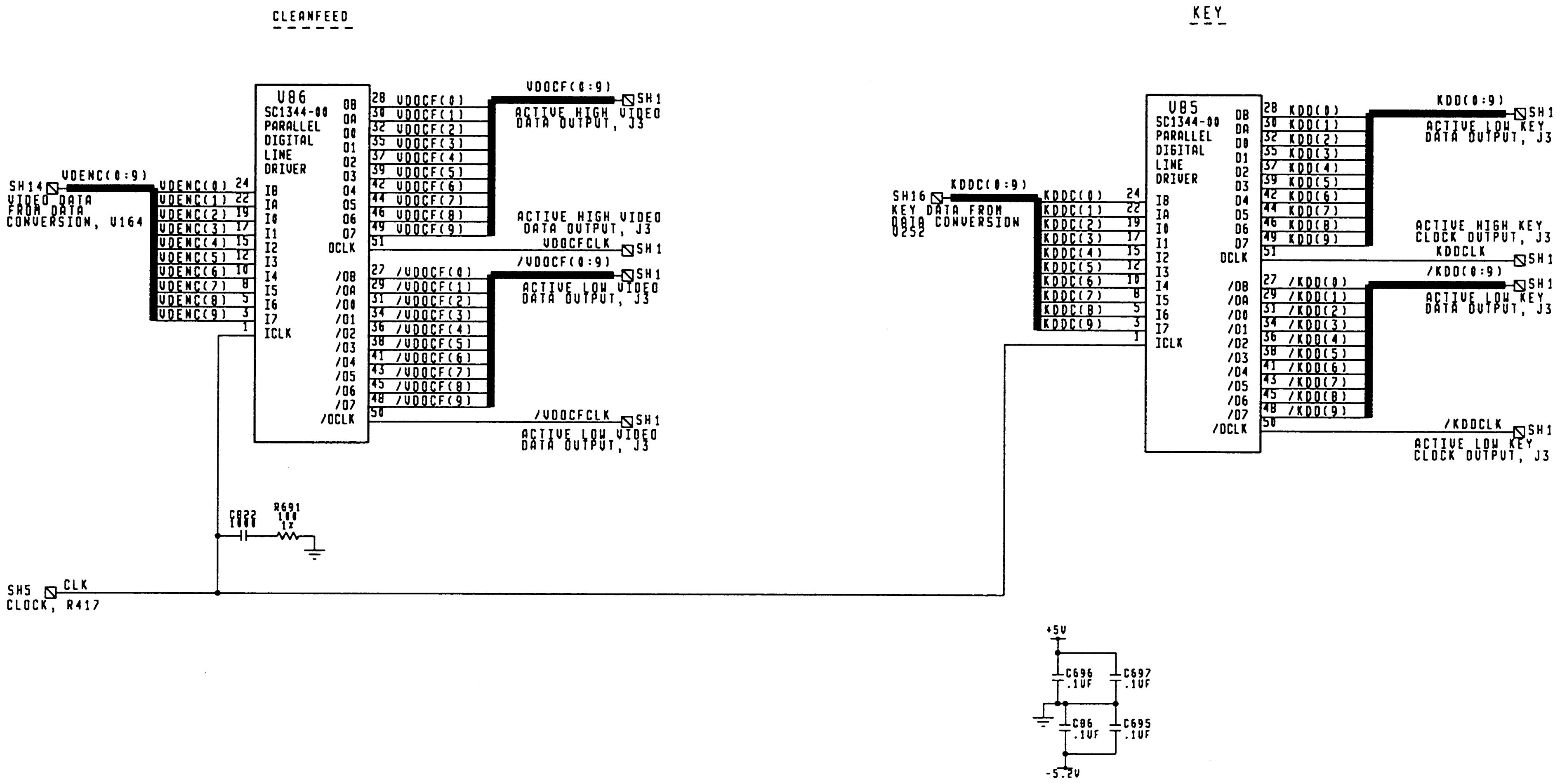

CLEANFEED
U86
SC1344-00
PARALLEL
DIGITAL
LINE
DRIVER
SH14
VDENC(0:9)
VIDEO DATA
FROM DATA
CONVERSION, U164
VDENC(0) 24 I8
VDENC(1) 22 IA
VDENC(2) 19 I0
VDENC(3) 17 I1
VDENC(4) 15 I2
VDENC(5) 12 I3
VDENC(6) 10 I4
VDENC(7) 8 I5
VDENC(8) 5 I6
VDENC(9) 3 I7
1 ICLK
OB 28 VDOCF(0)
OA 30 VDOCF(1)
O0 32 VDOCF(2)
O1 35 VDOCF(3)
O2 37 VDOCF(4)
O3 39 VDOCF(5)
O4 42 VDOCF(6)
O5 44 VDOCF(7)
O6 46 VDOCF(8)
O7 49 VDOCF(9)
OCLK 51
/OB 27 /VDOCF(0)
/OA 29 /VDOCF(1)
/O0 31 /VDOCF(2)
/O1 34 /VDOCF(3)
/O2 36 /VDOCF(4)
/O3 38 /VDOCF(5)
/O4 41 /VDOCF(6)
/O5 43 /VDOCF(7)
/O6 45 /VDOCF(8)
/O7 48 /VDOCF(9)
/OCLK 50
VDOCF(0:9) SH1
ACTIVE HIGH VIDEO
DATA OUTPUT, J3
ACTIVE HIGH VIDEO
DATA OUTPUT, J3
VDOCFCLK SH1
/VDOCF(0:9) SH1
ACTIVE LOW VIDEO
DATA OUTPUT, J3
/VDOCFCLK SH1
ACTIVE LOW VIDEO
DATA OUTPUT, J3
C822 1000
R691 100 1%
SH5 CLK
CLOCK, R417
KEY
U85
SC1344-00
PARALLEL
DIGITAL
LINE
DRIVER
SH16
KDDC(0:9)
KEY DATA FROM
DATA CONVERSION
U252
KDDC(0) 24 I8
KDDC(1) 22 IA
KDDC(2) 19 I0
KDDC(3) 17 I1
KDDC(4) 15 I2
KDDC(5) 12 I3
KDDC(6) 10 I4
KDDC(7) 8 I5
KDDC(8) 5 I6
KDDC(9) 3 I7
1 ICLK
DB 28 KDD(0)
DA 30 KDD(1)
D0 32 KDD(2)
D1 35 KDD(3)
D2 37 KDD(4)
D3 39 KDD(5)
D4 42 KDD(6)
D5 44 KDD(7)
D6 46 KDD(8)
D7 49 KDD(9)
DCLK 51
/DB 27 /KDD(0)
/DA 29 /KDD(1)
/D0 31 /KDD(2)
/D1 34 /KDD(3)
/D2 36 /KDD(4)
/D3 38 /KDD(5)
/D4 41 /KDD(6)
/D5 43 /KDD(7)
/D6 45 /KDD(8)
/D7 48 /KDD(9)
/DCLK 50
KDD(0:9) SH1
ACTIVE LOW KEY
DATA OUTPUT, J3
ACTIVE HIGH KEY
CLOCK OUTPUT, J3
KDDCLK SH1
/KDD(0:9) SH1
ACTIVE LOW KEY
DATA OUTPUT, J3
/KDDCLK SH1
ACTIVE LOW KEY
CLOCK OUTPUT, J3
+5V
C696 .1UF
C697 .1UF
C86 .1UF
C695 .1UF
-5.2V

GRASS VALLEY GROUP

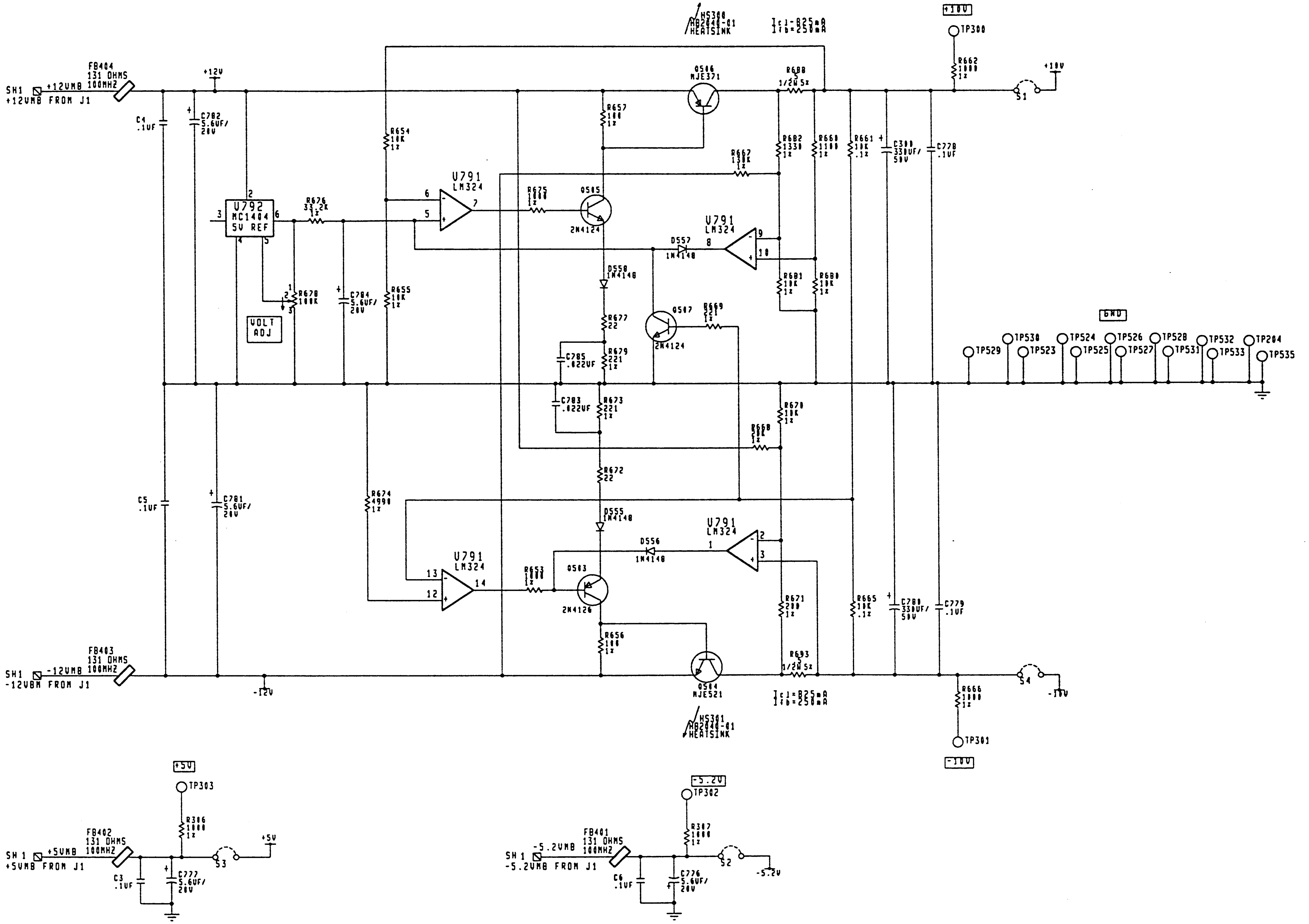
SCHEMATIC DIAGRAM
NTSC INTERFACE
COMPOSITE ANALOG/DIGITAL
DIGITAL OUTPUT DRIVER

SIZE	DRAWING NO.	REV
D	10-064702-03	A1

SCALE: NONE

SHEET 21 OF 24

SEE SHEET ONE FOR REVISIONS


SH1 +12VMB FROM J1
+12VMB
FB404 131 OHMS 100MHZ
+12V
C4 .1UF
C702 5.6UF/ 20V
U792 MC1404 5V REF
R676 33.2K 1%
R678 100K
VOLT ADJ
C704 5.6UF/ 20V
R654 10K 1%
R655 10K 1%
U791 LM324
R675 1000 1%
Q505 2N4124
R657 100 1%
Q506 MJE371
HS300 HB2040-01 HEATSINK
Ic1=825mA Ifb=250mA
R688 .5 1/2W 5%
R682 1330 1%
R660 1100 1%
R661 10K .1%
R667 130K 1%
C300 330UF/ 50V
C778 .1UF
+10V
TP300
R662 1000 1%
S1
D557 1N4148
D558 1N4148
R681 10K 1%
R680 10K 1%
Q507 2N4124
R669 221 1%
R677 22
R679 221 1%
C785 .022UF
GND
TP529 TP530 TP523 TP524 TP525 TP526 TP527 TP528 TP531 TP532 TP533 TP204 TP535
C783 .022UF
R673 221 1%
R670 10K 1%
R668 20K 1%
R672 22
C5 .1UF
C701 5.6UF/ 20V
R674 4990 1%
D555 1N4148
D556 1N4148
R653 1000 1%
Q503 2N4126
R656 100 1%
Q504 MJE521
HS301 HB2040-01 HEATSINK
R671 200 1%
R693 .5 1/2W 5%
R665 10K .1%
C700 330UF/ 50V
C779 .1UF
S4
-10V
R666 1000 1%
TP301
SH1 -12VBM FROM J1
-12VMB
FB403 131 OHMS 100MHZ
-12V
+5V
TP303
R306 1000 1%
SH 1 +5VMB FROM J1
+5VMB
FB402 131 OHMS 100MHZ
C3 .1UF
C777 5.6UF/ 20V
S3
-5.2V
TP302
R307 1000 1%
SH 1 -5.2VMB FROM J1
-5.2VMB
FB401 131 OHMS 100MHZ
C6 .1UF
C776 5.6UF/ 20V
S2

GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
NTSC INTERFACE
COMPOSITE ANALOG/DIGITAL
VOLTAGE REGULATORS

SIZE	DRAWING NO	REV
D	10-064702-03	A1

SCALE: NONE
SHEET 22 OF 24

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REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC

SEE SHEET 1 FOR REVISION.

Net name to page:

+1.03V	18	+1.3V	18	+10V	2,3,4,5,6,7,11,15,17,19,22		
+10VA	15,16	+10VD	17,18	+10VE	19,20	+12V	22
+12VMB	1,22	+2.0V	18				
+5V	1,2,3,4,5,7,8,9,10,11,12,13,14,15,16,17,18,21,22			+5VA	5	+5VMB	1,22
-10V	2,3,4,5,6,7,11,15,17,19,22			-10VA	15,16	-10VD	17,18
-10VE	19,20	-12V	22	-12VMB	1,22	-30MV	18
-5.2V	2,3,5,15,16,21,22			-5.2VMB	1,22	/BAS	1,12
/BDGATE	12	/BDTACK0	1,12	/CHK	11,19	/KDO(0)	1,21
/KDO(1)	1,21	/KDO(2)	1,21	/KDO(3)	1,21	/KDO(4)	1,21
/KDO(5)	1,21	/KDO(6)	1,21	/KDO(7)	1,21	/KDO(8)	1,21
/KDO(9)	1,21	/KDOCLK	1,21	/VDI1A(0)	1,2	/VDI1A(1)	1,2
/VDI1A(2)	1,2	/VDI1A(3)	1,2	/VDI1A(4)	1,2	/VDI1A(5)	1,2
/VDI1A(6)	1,2	/VDI1A(7)	1,2	/VDI1ACLK	1,2	/VDI1B(0)	1,2
/VDI1B(1)	1,2	/VDI1B(2)	1,2	/VDI1B(3)	1,2	/VDI1B(4)	1,2
/VDI1B(5)	1,2	/VDI1B(6)	1,2	/VDI1B(7)	1,2	/VDI1BCLK	1,2
/VDI2A(0)	1,3	/VDI2A(1)	1,3	/VDI2A(2)	1,3	/VDI2A(3)	1,3
/VDI2A(4)	1,3	/VDI2A(5)	1,3	/VDI2A(6)	1,3	/VDI2A(7)	1,3
/VDI2ACLK	1,3	/VDI2B(0)	1,3	/VDI2B(1)	1,3	/VDI2B(2)	1,3
/VDI2B(3)	1,3	/VDI2B(4)	1,3	/VDI2B(5)	1,3	/VDI2B(6)	1,3
/VDI2B(7)	1,3	/VDI2BCLK	1,3	/VDIF1C(7)	1,2	/VDIF2C(7)	1,3
/VDOCF(0)	1,21	/VDOCF(1)	1,21	/VDOCF(2)	1,21	/VDOCF(3)	1,21
/VDOCF(4)	1,21	/VDOCF(5)	1,21	/VDOCF(6)	1,21	/VDOCF(7)	1,21
/VDOCF(8)	1,21	/VDOCF(9)	1,21	/VDOCFCLK	1,21	3.58A	5,8
3.58B	5,9	3.58C	5,10	3.58_DEC1	2,5	3.58_DEC2	3,5
3.58_ENC	5,14	3R	5	7.16A	5,7,8	7.16B	5,9
7.16C	5,10	A1	5,7	A2	5,7	ADV_CB	8,14,16
BADBI(0)	2,3,4,12,18	BADBI(1)	2,3,4,12,18	BADBI(2)	2,3,4,12,18	BADD(0)	1,12
BADD(1)	1,12	BADD(15)	1,12	BADD(16)	1,12	BADD(2)	1,12
BADD(3)	1,12	BADD(4)	1,12	BADD(5)	1,12	BCLK	1,12
BD(10)	1,12	BD(11)	1,12	BD(12)	1,12	BD(13)	1,12
BD(14)	1,12	BD(15)	1,12	BD(8)	1,12	BD(9)	1,12
BDBI(0)	2,3,4,5,8,9,10,11,12,18			BDBI(1)	2,3,4,5,8,9,10,11,12,18		
BDBI(2)	2,3,4,5,8,9,10,11,12,18			BDBI(3)	2,3,4,5,8,9,10,11,12,18		
BDBI(4)	2,3,4,5,8,9,10,11,12,18			BDBI(5)	2,3,4,5,8,9,10,11,12,18		
BDBI(6)	2,3,4,5,8,9,10,11,12,18			BDBI(7)	2,3,4,5,8,9,10,11,12,18		
BENCLK	12	BLKBST	4,5,6	BRD/WR	1,12	BYPASS	4,14,16
CH1_B1	4,5,7	CH1_B2	4,5,7	CH2_C1	4,5,7	CH2_C2	4,5,7
CHF	11,19	CHG_EN	5,11	CHK	11,19	CLAMP_ENA	17,18
CLK	2,3,5,7,8,9,10,11,13,21			CLKB	1,5	CLKDCB	13
CLKDCC	13,14	CLKDCD	13,15,16	CLKIFIN	13,14,16	CP1A	2,9
CP1ADC	2,9	CP2A	3,10	CP2ADC	3,10	CPDAC	8,16
CS	8,11,14,16	CSI	6,7,8,9,10	DCK3	12,18	ENA(0)	4
ENA(1)	4	ENA(2)	4,8	ENA(24)	18	ENA(25)	18
ENA(3)	4,8	ENA(32)	4,11	ENA(33)	4,11	ENA(34)	4,11
ENA(35)	4,8	ENA(36)	4	ENA(37)	4	ENA(4)	4,9
ENA(5)	4,10	ENA(6)	4,5	ENA(7)	4,5	FC(0)	13,14
FC(1)	13,14	FC(2)	13,14	FC(3)	13,14	FC(4)	13,14
FC(5)	13,14	FC(6)	13,14	FC(7)	13,14	FC(8)	13,14
FC(9)	13,14	FID	1,5,8	FID_1	9	FID_2	10
FINE(0)	4,5	FINE(1)	4,5	FTBCNTL	17,18		
GND	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23					H/2	8,14,16
HCO(0)	8,11	HCO(1)	8,11	HCO(2)	8,11	HCO(3)	8,11
HCO(4)	8,11	HCO(5)	8,11	HCO(6)	8,11	HCO(7)	8,11
HCO(8)	8,11	HCO(9)	8,11	HD	4,8	HD_1	9
HD_2	10	HLD	7,8	HLD_1	7,9	HLD_2	7,10
H_TRIG	11	IH1	1,9	IH2	1,10	ISE1	2,12
ISE2	3,12	IV1	1,9	IV2	1,10	KADC	16,18
KAK	18,20	KAO	1,20	KD(0)	4,16	KD(1)	4,16
KD(2)	4,16	KDA(0)	16	KDA(1)	16	KDA(2)	16
KDA(3)	16	KDA(4)	16	KDA(5)	16	KDA(6)	16
KDA(7)	16	KDDC(0)	16,21	KDDC(1)	16,21	KDDC(2)	16,21
KDDC(3)	16,21	KDDC(4)	16,21	KDDC(5)	16,21	KDDC(6)	16,21
KDDC(7)	16,21	KDDC(8)	16,21	KDDC(9)	16,21	KDO(0)	1,21
KDO(1)	1,21	KDO(2)	1,21	KDO(3)	1,21	KDO(4)	1,21
KDO(5)	1,21	KDO(6)	1,21	KDO(7)	1,21	KDO(8)	1,21
KDO(9)	1,21	KDOCLK	1,21	KDOP(0)	1,16	KDOP(1)	1,16
KDOP(2)	1,16	KDOP(3)	1,16	KDOP(4)	1,16	KDOP(5)	1,16
KDOP(6)	1,16	KDOP(7)	1,16	KEYMIX	17,18	KEY_ADV_CB	8,18
K_BST_EN	4,16	K_OUT_EN	16	K_SBA_EN	4,16	K_SYC_EN	4,16

K_TST_EN	4,16	LA(0)	14	LA(1)	14	LA(2)	14
LA(3)	14	LA(4)	14	LA(5)	14	LA(6)	14
LA(7)	14	LB(0)	13,14	LB(1)	13,14	LB(2)	13,14
LB(3)	13,14	LB(4)	13,14	LB(5)	13,14	LB(6)	13,14
LB(7)	13,14	LD(0)	4,14	LD(1)	4,14	LD(2)	4,14
LD(3)	4,14	LD(4)	4,14	MC(0)	14	MC(1)	14
MC(2)	14	MC(3)	14	MC(4)	14	MC(5)	14
MC(6)	14	MC(7)	14	MC(8)	14	MC(9)	14
MCPDAC	15,16	OH	1,8	OSC_ERR	5	OUT_EN	14
OV	1,8	PS_0	5,11	PS_1	5,11	R(0)	13
R(1)	13	R(2)	13	R(3)	13	R(4)	13
R(5)	13	R(6)	13	R(7)	13	RDORWR	12
REFI	1,4	REFISH	1,4	RESET	11,14,16	RSC	14
RSYNC	5,6	S4(0)	14	S4(1)	14	S4(2)	14
S4(3)	14	S4(4)	14	S4(5)	14	S4(6)	14
S4(7)	14	S4(8)	14	S4(9)	14	SA(0)	18
SA(1)	18	SA(2)	18	SA(3)	18	SA(4)	18
SA(5)	18	SA(6)	18	SCHRS	5,7	SETUP	17,18
SGE0	4,12	SGE4	4,12	SU	4,14	TC0	8
TC1	8	VADCY	15,17	VAI1AY	1,2	VAI1BY	1,2
VAI2AY	1,3	VAI2BY	1,3	VAIBGY	1,17	VAKCFY	17,20
VAKPGMY	17,19	VAOCFU	1,20	VAOCFY	1,20	VAOPGMU	1,19
VAOPGMY	1,19	VBE	8	VBE_1	9	VBE_2	10
VCE	8	VCE_1	9	VCE_2	10	VCO(0)	8,11
VCO(1)	8,11	VCO(2)	8,11	VCO(3)	8,11	VCO(4)	8,11
VCO(5)	8,11	VCO(6)	8,11	VCO(7)	8,11	VCO(8)	8,11
VCO(9)	8,11	VD	4,8,14,16	VDENC(0)	14,15,21	VDENC(1)	14,15,21
VDENC(2)	14,15,21	VDENC(3)	14,15,21	VDENC(4)	14,15,21	VDENC(5)	14,15,21
VDENC(6)	14,15,21	VDENC(7)	14,15,21	VDENC(8)	14,15,21	VDENC(9)	14,15,21
VDI1A(0)	1,2	VDI1A(1)	1,2	VDI1A(2)	1,2	VDI1A(3)	1,2
VDI1A(4)	1,2	VDI1A(5)	1,2	VDI1A(6)	1,2	VDI1A(7)	1,2

VDI1ACLK	1,2	VDI1B(0)	1,2	VDI1B(1)	1,2	VDI1B(2)	1,2
VDI1B(3)	1,2	VDI1B(4)	1,2	VDI1B(5)	1,2	VDI1B(6)	1,2
VDI1B(7)	1,2	VDI1BCLK	1,2	VDI2A(0)	1,3	VDI2A(1)	1,3
VDI2A(2)	1,3	VDI2A(3)	1,3	VDI2A(4)	1,3	VDI2A(5)	1,3
VDI2A(6)	1,3	VDI2A(7)	1,3	VDI2ACLK	1,3	VDI2B(0)	1,3
VDI2B(1)	1,3	VDI2B(2)	1,3	VDI2B(3)	1,3	VDI2B(4)	1,3
VDI2B(5)	1,3	VDI2B(6)	1,3	VDI2B(7)	1,3	VDI2BCLK	1,3
VDIF1C(0)	1,2	VDIF1C(1)	1,2	VDIF1C(2)	1,2	VDIF1C(3)	1,2
VDIF1C(4)	1,2	VDIF1C(5)	1,2	VDIF1C(6)	1,2	VDIF1C(7)	1,2
VDIF1L(0)	1,2	VDIF1L(1)	1,2	VDIF1L(2)	1,2	VDIF1L(3)	1,2
VDIF1L(4)	1,2	VDIF1L(5)	1,2	VDIF1L(6)	1,2	VDIF1L(7)	1,2
VDIF2C(0)	1,3	VDIF2C(1)	1,3	VDIF2C(2)	1,3	VDIF2C(3)	1,3
VDIF2C(4)	1,3	VDIF2C(5)	1,3	VDIF2C(6)	1,3	VDIF2C(7)	1,3
VDIF2L(0)	1,3	VDIF2L(1)	1,3	VDIF2L(2)	1,3	VDIF2L(3)	1,3
VDIF2L(4)	1,3	VDIF2L(5)	1,3	VDIF2L(6)	1,3	VDIF2L(7)	1,3
VDOCF(0)	1,21	VDOCF(1)	1,21	VDOCF(2)	1,21	VDOCF(3)	1,21
VDOCF(4)	1,21	VDOCF(5)	1,21	VDOCF(6)	1,21	VDOCF(7)	1,21
VDOCF(8)	1,21	VDOCF(9)	1,21	VDOCFCLK	1,21	VDOPC(0)	1,13
VDOPC(1)	1,13	VDOPC(2)	1,13	VDOPC(3)	1,13	VDOPC(4)	1,13
VDOPC(5)	1,13	VDOPC(6)	1,13	VDOPC(7)	1,13	VDOPL(0)	1,14
VDOPL(1)	1,14	VDOPL(2)	1,14	VDOPL(3)	1,14	VDOPL(4)	1,14
VDOPL(5)	1,14	VDOPL(6)	1,14	VDOPL(7)	1,14	VPD	5,7,8
V_RST1	2,9	V_RST2	3,10	V_SBA_EN	4,14	V_TRIG	11
V_TST_EN	4,14	YWS(0)	14	YWS(1)	14	YWS(2)	14
YWS(3)	14	YWS(4)	14	YWS(5)	14	YWS(6)	14
YWS(7)	14						

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APPLICATION	
DISTRIBUTION	

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GRASS VALLEY CALIFORNIA A TEKTRONIX COMPANY

MMB/PLUM 5/14/91
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SCHEMATIC DIAGRAM
NTSC INTERFACE
COMPOSITE ANALOG/DIGITAL
NET NAME TO PAGE XREF

D 10-064702-03 A1
NONE SHEET 23 OF 24

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REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC

SEE SHEET 1 FOR REVISIONS.

Reference Designator to page:

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C352	11	C353	4	C354	4	C357	4	C358	4	C359	4	C360	4
C361	11	C362	4	C363	4	C364	4	C365	4	C366	4	C367	5
C401	6	C402	6	C403	6	C404	11	C405	11	C406	6	C407	11
C408	6	C409	6	C411	6	C412	6	C413	11	C414	6	C416	5
C417	5	C420	5	C421	11	C422	5	C423	6	C424	11	C425	6
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C551	4	C552	4	C553	4	C554	4	C555	4	C556	11	C557	11
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C686	18	C688	18	C689	18	C693	17	C695	21	C696	21	C697	21
C775	8	C776	22	C777	22	C778	22	C779	22	C780	22	C781	22
C782	22	C783	22	C784	22	C785	22	C786	17	C787	16	C788	16
C790	16	C791	15	C792	15	C793	15	C794	15	C795	16	C798	3
C799	3	C800	2	C801	2	C802	5	C804	4	C805	20	C806	20
C807	20	C808	19	C809	19	C810	17	C816	11	C817	11	C818	11
C819	11	C820	11	C821	11	C822	21	C823	17	C824	16	C825	16
C826	16	C827	14	D10	17	D11	17	D75	18	D76	18	D130	18
D131	18	D132	18	D133	18	D134	18	D135	18	D160	15	D200	16
D350	4	D351	4	D450	5	D500	7	D501	7	D502	7	D504	7
D505	7	D550	4	D551	4	D552	5	D553	5	D554	7	D555	22
D556	22	D557	22	D558	22	D559	5	D560	5	D561	16	DL400	6
F1	23	F2	23	F3	23	F4	23	F7	23	F8	23	F10	23
F11	23	F12	23	FB30	19	FB31	19	FB95	17	FB130	17	FB160	15
FB161	15	FB162	15	FB163	15	FB164	16	FB165	16	FB400	5	FB401	22
FB402	22	FB403	22	FB404	22	J4	1	J5	16	J6	13	J7	1
J8	2	J9	2	J10	3	J11	3	J12	15	J13	16	J14	16
J15	15	J1A	1	J1B	1	J1C	1	J2A	1	J2B	1	J2C	1
J3A	1	J3B	1	J3C	1	L8	16	L9	16	L11	16	L12	16
L13	16	L14	16	L96	17	L97	17	L100	15	L101	15	L102	15
L103	15	L104	15	L105	15	L120	18	L121	18	L350	4	L351	4
L352	4	L353	4	L420	5	L421	5	L422	5	L450	5	L451	20
L452	20	L453	19	MH15	23	MH16	23	MH17	23	MH18	23	MH19	23
MH20	23	MH21	23	MH22	23	MH24	23	MH25	23	Q1	19	Q2	19
Q3	16	Q95	17	Q96	17	Q97	17	Q120	18	Q121	18	Q130	18
Q350	4	Q351	4	Q352	4	Q420	5	Q450	5	Q500	7	Q501	7
Q502	7	Q503	22	Q504	22	Q505	22	Q506	22	Q507	22	R2	14
R10	17	R11	17	R12	17	R20	20	R30	19	R50	20	R75	18
R76	18	R77	18	R78	18	R79	18	R80	18	R94	17	R96	17
R97	17	R100	17	R102	17	R103	17	R104	17	R105	17	R106	17
R120	18	R121	18	R122	18	R123	18	R124	18	R125	18	R126	18
R127	18	R128	18	R129	18	R130	18	R131	18	R132	18	R133	18
R134	18	R135	18	R136	18	R137	18	R138	18	R139	18	R140	18
R141	18	R142	18	R160	15	R162	15	R163	15	R164	15	R165	15
R167	15	R171	15	R172	15	R174	15	R175	15	R176	15	R177	15
R178	15	R179	15	R180	15	R181	15	R183	15	R184	15	R185	15
R186	15	R187	15	R188	15	R189	15	R192	15	R194	15	R195	15
R196	15	R200	16	R201	16	R203	16	R204	16	R206	16	R207	16
R208	16	R209	16	R211	16	R212	16	R213	16	R214	16	R215	16
R216	16	R217	16	R218	16	R220	16	R221	16	R222	16	R223	16
R224	16	R225	16	R226	16	R227	16	R228	16	R229	16	R231	16

R232	16	R233	16	R234	16	R235	16	R236	16	R237	16	R238	18
R239	18	R240	18	R241	18	R242	18	R243	18	R250	17	R251	17
R253	17	R254	17	R255	17	R256	17	R257	18	R258	15	R306	22
R307	22	R350	4	R351	4	R352	4	R353	4	R354	4	R355	4
R357	4	R358	4	R359	4	R360	4	R361	4	R362	6	R400	6
R401	6	R402	6	R403	6	R405	6	R406	6	R407	6	R408	6
R409	6	R410	6	R412	6	R413	6	R414	6	R415	6	R416	5
R417	5	R420	6	R421	5	R422	5	R423	5	R426	5	R427	5
R428	5	R429	5	R430	5	R431	5	R432	5	R433	5	R434	5
R435	5	R436	5	R437	5	R450	5	R451	5	R452	5	R454	5
R455	5	R456	5	R457	5	R459	6	R500	7	R501	7	R502	7
R503	7	R504	7	R505	7	R506	7	R507	7	R508	7	R509	7
R510	7	R511	7	R512	7	R513	7	R514	7	R515	7	R516	7
R517	7	R518	7	R550	4	R551	4	R552	6	R553	5	R554	5
R555	5	R556	5	R600	11	R601	11	R602	11	R603	11	R651	4
R652	5	R653	22	R654	22	R655	22	R656	22	R657	22	R660	22
R661	22	R662	22	R665	22	R666	22	R667	22	R668	22	R669	22
R670	22	R671	22	R672	22	R673	22	R674	22	R675	22	R676	22
R677	22	R678	22	R679	22	R680	22	R681	22	R682	22	R684	17
R685	16	R686	15	R687	15	R688	22	R690	18	R691	21	R692	17
R693	22	R694	17	R695	16	R696	16	R697	16	R698	16	R699	14
R700	17	RN15	4	RN65	12	RN66	12	RN67	12	RN68	12	RN650	14
RN782	13	RN783	14	RN784	14	RN785	13	RN786	13	RN787	16	RN788	16
RN789	16	RN790	3	RN791	3	RN792	2	RN793	2	S1	22	S2	22
S3	22	S4	22	TP15	4	TP160	15	TP161	15	TP162	15	TP163	15
TP164	15	TP200	16	TP201	16	TP202	16	TP203	16	TP204	22	TP205	18
TP206	18	TP300	22	TP301	22	TP302	22	TP303	22	TP350	4	TP351	4
TP400	6	TP520	6	TP521	5	TP522	7	TP523	22	TP524	22	TP525	22
TP526	22	TP527	22	TP528	22	TP529	22	TP530	22	TP531	22	TP532	22
TP533	22	TP534	16	TP535	22	TP536	18	TP537	17	TP538	17	TP539	15
TP540	15	U10	17	U14	5	U15	4	U20	20	U21	20	U30	19
U31	19	U50	20	U51	20	U65	12	U66	12	U67	12	U68	12
U75	18	U76	18	U77	18	U78	18	U79	18	U85	21	U86	21
U95	17	U96	17	U97	17	U98	17	U120	18	U121	18	U122	18
U123	18	U124	17,18	U125	18	U126	18	U130	18	U131	16,18	U160	15
U161	15	U162	15	U163	15	U164	15	U200	16	U201	16	U202	16
U203	16	U204	16	U205	16	U206	16	U251	16	U252	16	U253	16
U254	16	U255	14	U350	4	U351	4	U401	6	U402	5	U420	5,6
U421	5	U451	5,11	U500	7	U501	7	U502	7,11	U503	7	U504	7
U505	7	U506	7	U507	6,7	U508	7,11	U520	9	U521	10	U522	8
U550	4	U551	4	U552	5	U553	5	U556	9	U557	9	U558	9
U559	10	U560	10	U561	8	U562	10	U563	8	U564	4	U565	4
U600	11	U601	11	U602	11	U603	11	U604	11	U606	8	U607	8
U608	11	U609	4	U610	4	U611	4	U612	5	U650	14	U651	14
U655	14	U656	14	U775	13	U776	13	U779	14	U781	15	U782	15
U788	11	U790	8	U791	22	U792	22	U793	17	U795	7	U796	13
U797	14	U798	14	U799	14	U800	14	U802	4	Y450	5		

	CADNETIX
DPM-100	
USED ON	NEXT ASSY

APPLICATION

DISTRIBUTION

GRASS VALLEY GROUP

GRASS VALLEY CALIFORNIA A TEKTRONIX COMPANY

MMB/PLUM5/14/91

MMB

SCHEMATIC DIAGRAM
NTSC INTERFACE
COMPOSITE ANALOG/DIGITAL
REF DESG TO PAGE XREF

D 10-064702-03 A1

NONE

SHEET 24 OF 24

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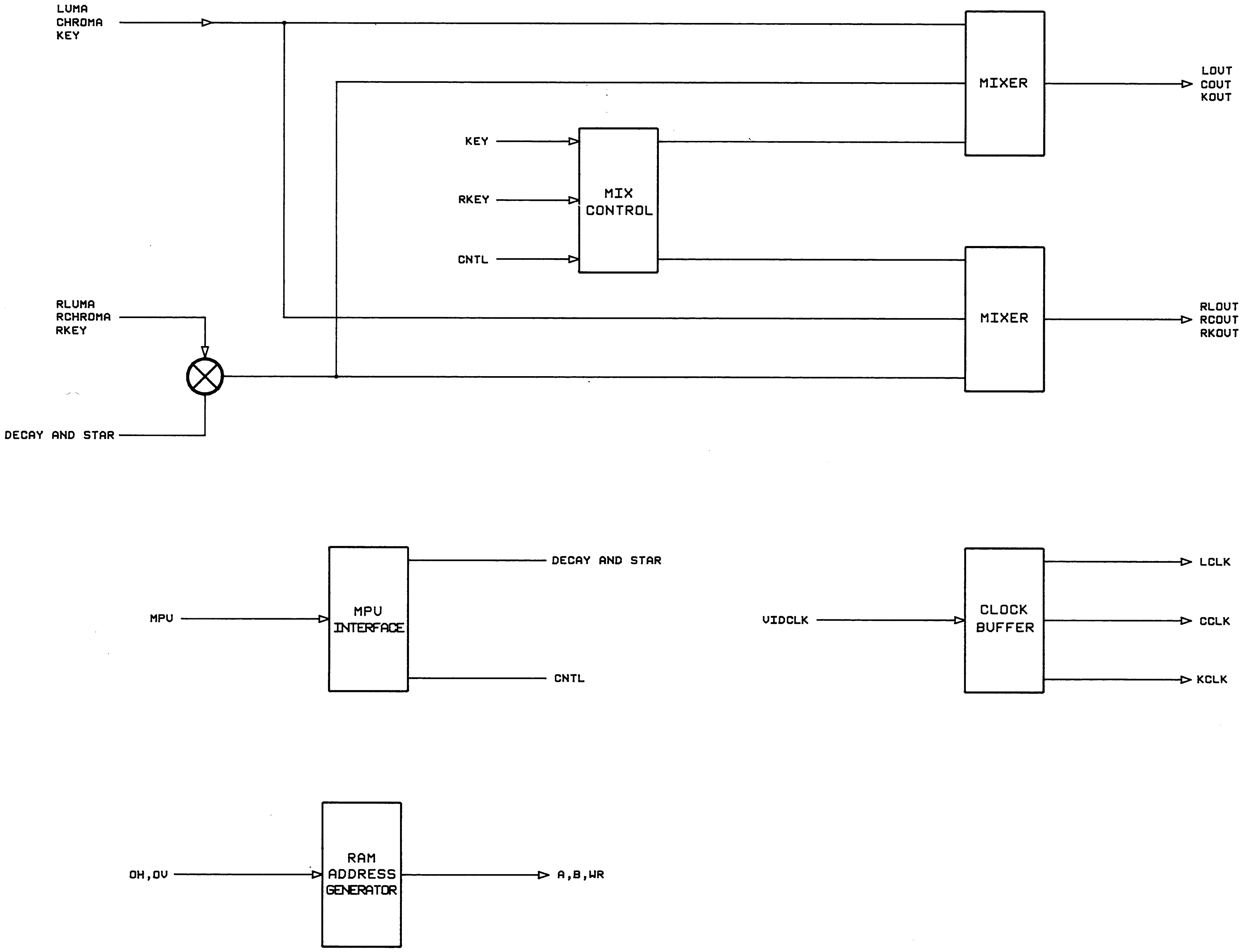
REVISIONS							
REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
A1	2073	RB	—	—	—		—

A1 PILOT RUN RELEASE, COMBINED 01 AND 10 VERSIONS. CREATED TABLE.


LUMA
CHROMA
KEY
MIXER
LOUT
COUT
KOUT
KEY
RKEY
CNTL
MIX CONTROL
MIXER
RLUMA
RCHROMA
RKEY
RLOUT
RCOUT
RKOUT
DECAY AND STAR
DECAY AND STAR
MPU
MPU INTERFACE
CNTL
VIDCLK
CLOCK BUFFER
LCLK
CCLK
KCLK
OH,OV
RAM ADDRESS GENERATOR
A,B,WR

ANY ECO MUST CAUSE REVISION LEVELS OF ALL VERSIONS TO BE THE SAME

TABLE A		
DESCRIPTION	VERSION	REV
NTSC	-01	A1
PAL	-10	A1

	CADNETIX
DPM-100	
USED ON	NEXT ASSY
APPLICATION	
DISTRIBUTION	

GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA
A TEKTRONIX COMPANY

DRAWN RSB DATE 10/04/90
ENGINEER FL
CHECKED DATE
APPROVED FL DATE
PILOT RUN RLSE FL DATE 26 Nov 90
ENGRG RLSE DATE

BLOCK DIAGRAM
RECURSIVE MEMORY

SIZE D DRAWING NO. 00-064703- SEE TABLE REV A1
SCALE: NONE SHEET 1 OF 1

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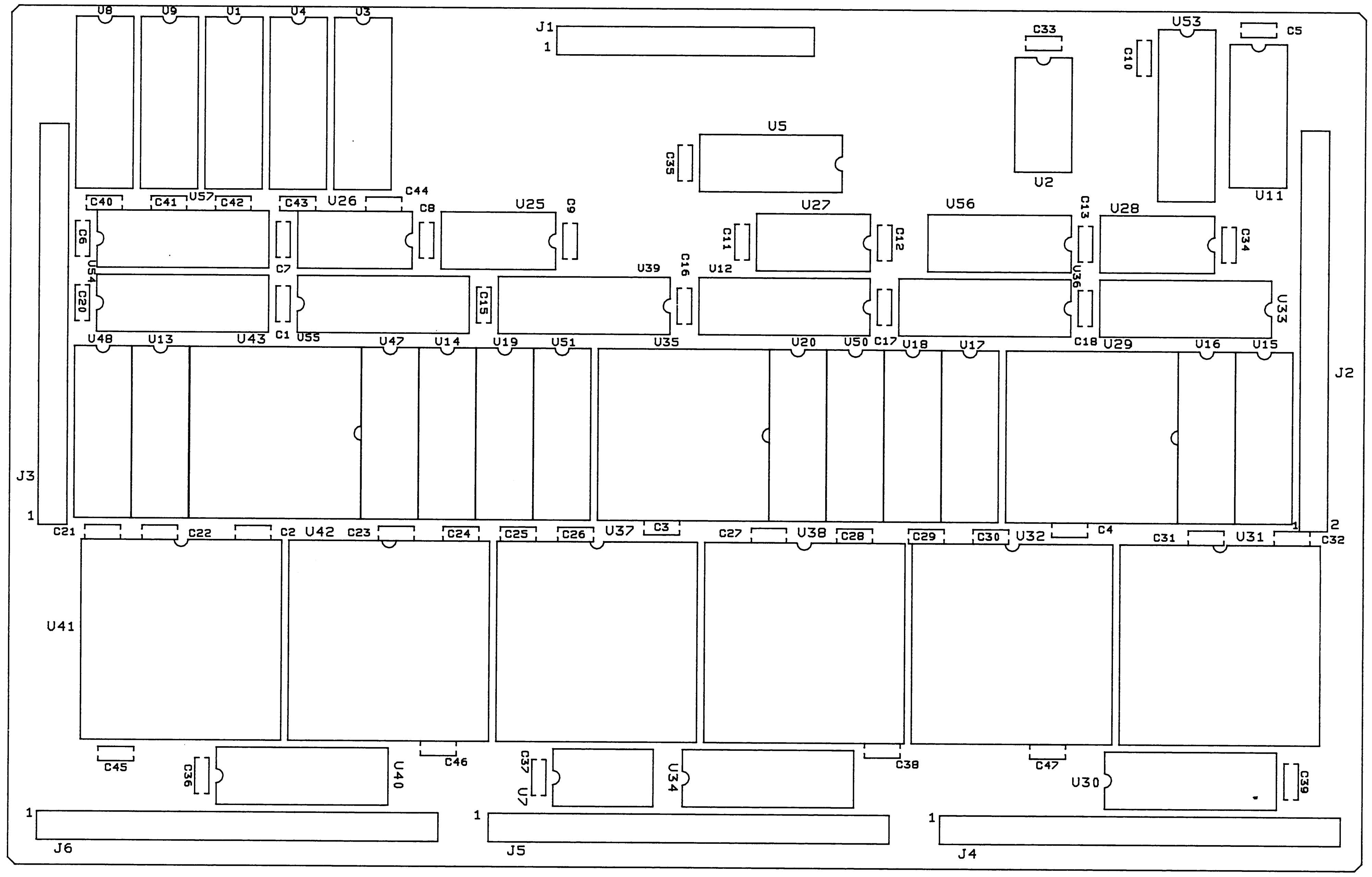
REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
A1	2073	——	——	——	——		——

R1 PILOT RUN RELEASE, COMBINED 01 AND 10 VERSIONS. CREATED TABLE.



U8
U9
U1
U4
U3
J1
1
C33
U53
C5
C10
U5
C35
U2
U11
C40
C41
U57
C42
C43
U26
C44
C8
U25
C9
U27
C11
C12
U56
C13
U28
C34
C6
C7
U54
C20
C15
U39
C16
U12
U36
U33
C1
U55
U48
U13
U43
U47
U14
U19
U51
U35
U20
U50
C17
U18
U17
C18
U29
U16
U15
J2
J3
1
2
C21
C22
C2
U42
C23
C24
C25
C26
U37
C3
C27
U38
C28
C29
C30
U32
C4
C31
U31
C32
U41
C45
C36
U40
C46
C37
U7
U34
C38
C47
U30
C39
1
J6
1
J5
1
J4

NOTES:
1. SCHEMATIC REFERENCE: D10-064703-XX.
2. DARKENED COMPONENTS INDICATE TEST POINTS AND ADJUSTABLE COMPONENTS.
3. REFER TO SCHEMATIC FOR EDGE CONNECTOR PIN OUT INFORMATION.

ANY ECO MUST CAUSE REVISION LEVELS OF ALL VERSIONS TO BE THE SAME.

TABLE A		
DESCRIPTION	VERSION	REV
NTSC	-01	A1
PAL	-10	A1

	CADNETIX
DPM-100	
USED ON	NEXT ASSY
APPLICATION	
DISTRIBUTION	

GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA *A TEKTRONIX COMPANY*

DRAWN RSB	DATE 11/15/90
ENGINEER FL	
CHECKED	DATE
APPROVED FL	DATE
PILOT RUN RLSE FL	DATE 26Nov90
ENGRG RLSE	DATE

COMPONENT ADJUSTMENT/LOCATION
RECURSIVE MEMORY

SIZE	DRAWING NO.	REV
B	07-064703- SEE TABLE	A1

SCALE: NONE SHEET 1 OF 1

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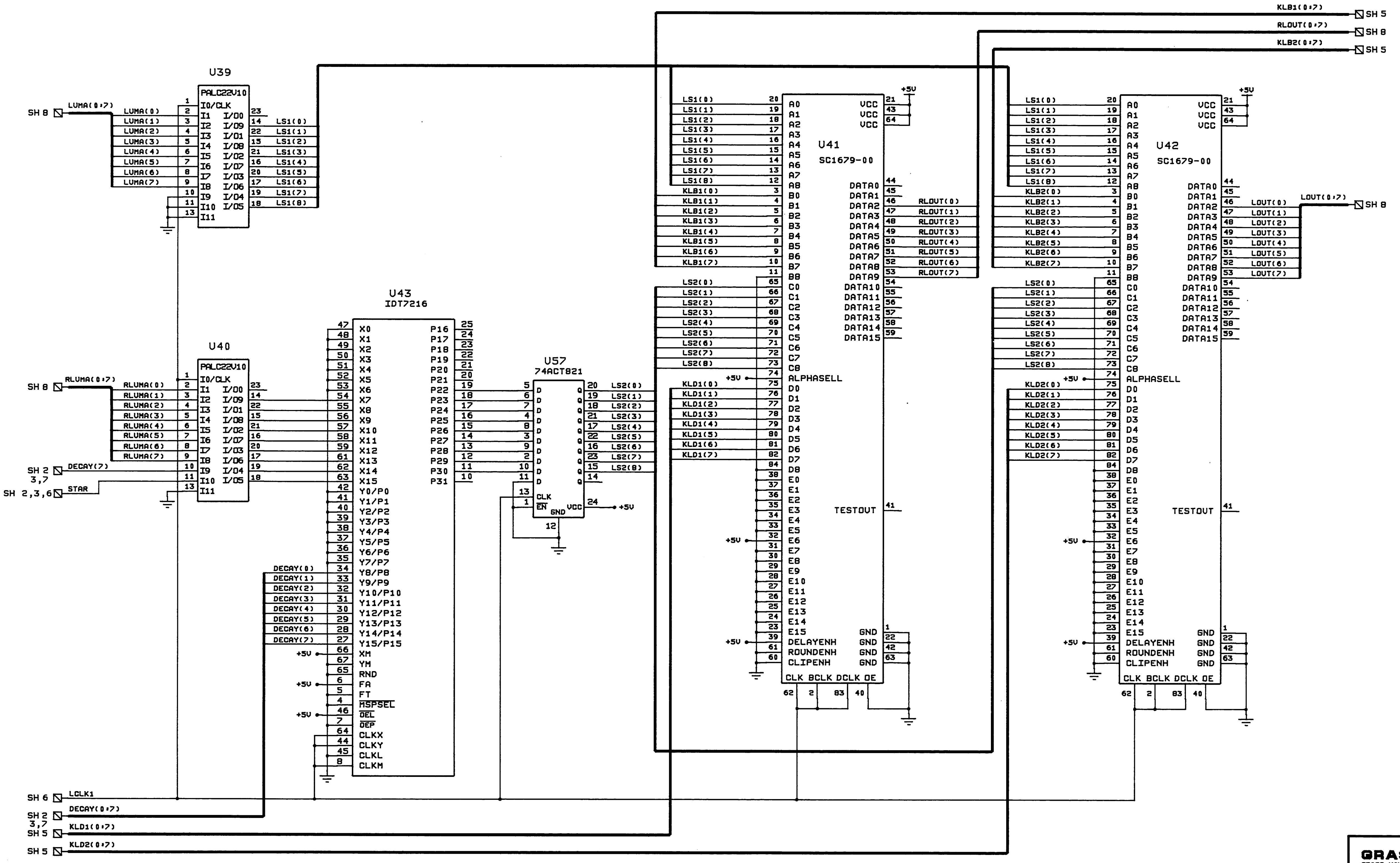
REVISIONS							
REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
A1	2073	RSB	11/90	—			—

R1 PILOT RUN RELEASE, COMBINE 10 AND 01 VERSIONS AND ADD TABLE.


U39
PALC22V10
U40
PALC22V10
U43
IDT7216
U57
74ACT821
U41
SC1679-00
U42
SC1679-00
SH 8 LUMA(0:7)
SH 8 RLUMA(0:7)
SH 2 3,7 DECAY(7)
SH 2,3,6 STAR
SH 6 LCLK1
SH 2 3,7 DECAY(0:7)
SH 5 KLD1(0:7)
SH 5 KLD2(0:7)
KLB1(0:7) SH 5
RLOUT(0:7) SH 8
KLB2(0:7) SH 5
LOUT(0:7) SH 8
LS1(0)–LS1(8)
LS2(0)–LS2(8)
RLOUT(0)–RLOUT(7)
LOUT(0)–LOUT(7)
+5V
I0/CLK
I1 I2 I3 I4 I5 I6 I7 I8 I9 I10 I11
I/O0 I/O1 I/O2 I/O3 I/O4 I/O5 I/O6 I/O7 I/O8 I/O9
X0–X15
Y0/P0–Y15/P15
P16–P31
XM YM RND FA FT HSPSEL DEL DEP CLKX CLKY CLKL CLKM
CLK EN GND VCC
A0–A8 B0–B8 C0–C8 D0–D8 E0–E15
VCC
DATA0–DATA15
ALPHASELL
TESTOUT
DELAYENH ROUNDENH CLIPENH
GND
CLK BCLK DCLK OE

ANY ECO MUST CAUSE REVISION LEVELS OF ALL VERSIONS TO BE THE SAME

TABLE A		
DESCRIPTION	VERSION	REV
NTSC	-01	A1
PAL	-10	A1

	CADNETIX
DPM-100	
USED ON	NEXT ASSY
APPLICATION	
DISTRIBUTION	

GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA
A TEKTRONIX COMPANY

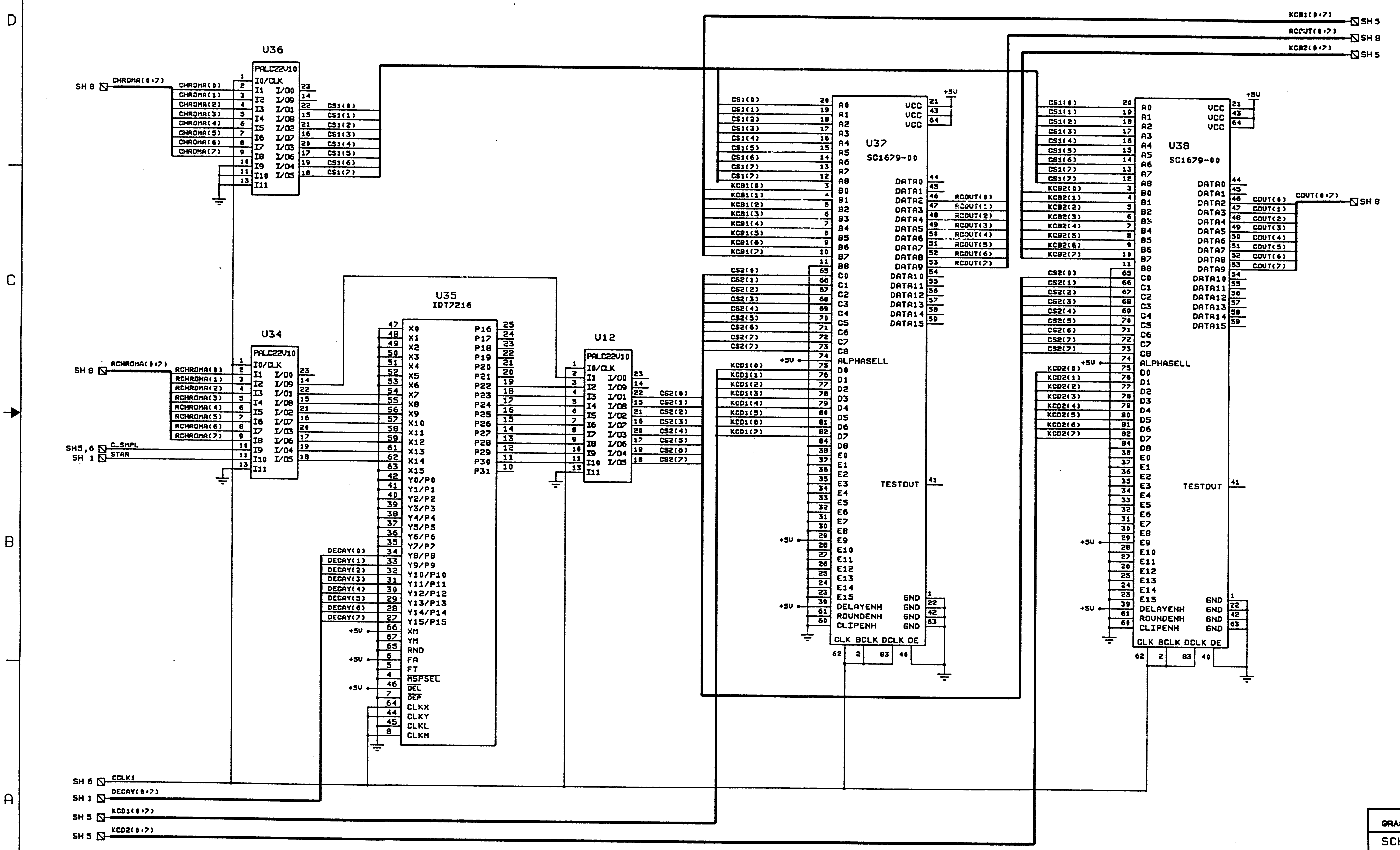
DRAWN RSB	DATE 05/24/89
ENGINEER FL	
CHECKED	DATE
APPROVED FL	DATE
PILOT RUN RLSE FL	DATE 26 Nov 90
ENGRG RLSE	DATE

SCHEMATIC DIAGRAM
RECURSIVE MEMORY
LUMA MIXERS

SIZE	DRAWING NO.	REV
D	10-064703- SEE TABLE	A1

SCALE: NONE SHEET 1 OF 9

SEE SHEET 1 FOR REVISIONS


U36
PALC22V10
CHROMA(0:7)
CHROMA(0)
CHROMA(1)
CHROMA(2)
CHROMA(3)
CHROMA(4)
CHROMA(5)
CHROMA(6)
CHROMA(7)
CS1(0)
CS1(1)
CS1(2)
CS1(3)
CS1(4)
CS1(5)
CS1(6)
CS1(7)
U34
PALC22V10
RCHROMA(0:7)
RCHROMA(0)
RCHROMA(1)
RCHROMA(2)
RCHROMA(3)
RCHROMA(4)
RCHROMA(5)
RCHROMA(6)
RCHROMA(7)
C_SMPL
STAR
SH5,6
SH 1
SH 8
U35
IDT7216
X0
X1
X2
X3
X4
X5
X6
X7
X8
X9
X10
X11
X12
X13
X14
X15
Y0/P0
Y1/P1
Y2/P2
Y3/P3
Y4/P4
Y5/P5
Y6/P6
Y7/P7
Y8/P8
Y9/P9
Y10/P10
Y11/P11
Y12/P12
Y13/P13
Y14/P14
Y15/P15
XM
YM
RND
FA
FT
MSPSEL
OEL
OEP
CLKX
CLKY
CLKL
CLKM
P16
P17
P18
P19
P20
P21
P22
P23
P24
P25
P26
P27
P28
P29
P30
P31
DECAY(0)
DECAY(1)
DECAY(2)
DECAY(3)
DECAY(4)
DECAY(5)
DECAY(6)
DECAY(7)
+5V
U12
PALC22V10
CS2(0)
CS2(1)
CS2(2)
CS2(3)
CS2(4)
CS2(5)
CS2(6)
CS2(7)
U37
SC1679-00
U38
SC1679-00
A0
A1
A2
A3
A4
A5
A6
A7
A8
B0
B1
B2
B3
B4
B5
B6
B7
B8
C0
C1
C2
C3
C4
C5
C6
C7
C8
ALPHASELL
D0
D1
D2
D3
D4
D5
D6
D7
D8
E0
E1
E2
E3
E4
E5
E6
E7
E8
E9
E10
E11
E12
E13
E14
E15
DELAYENH
ROUNDENH
CLIPENH
CLK BCLK DCLK OE
VCC
GND
DATA0
DATA1
DATA2
DATA3
DATA4
DATA5
DATA6
DATA7
DATA8
DATA9
DATA10
DATA11
DATA12
DATA13
DATA14
DATA15
TESTOUT
KCB1(0)
KCB1(1)
KCB1(2)
KCB1(3)
KCB1(4)
KCB1(5)
KCB1(6)
KCB1(7)
KCD1(0)
KCD1(1)
KCD1(2)
KCD1(3)
KCD1(4)
KCD1(5)
KCD1(6)
KCD1(7)
KCB2(0)
KCB2(1)
KCB2(2)
KCB2(3)
KCB2(4)
KCB2(5)
KCB2(6)
KCB2(7)
KCD2(0)
KCD2(1)
KCD2(2)
KCD2(3)
KCD2(4)
KCD2(5)
KCD2(6)
KCD2(7)
RCOUT(0)
RCOUT(1)
RCOUT(2)
RCOUT(3)
RCOUT(4)
RCOUT(5)
RCOUT(6)
RCOUT(7)
COUT(0)
COUT(1)
COUT(2)
COUT(3)
COUT(4)
COUT(5)
COUT(6)
COUT(7)
COUT(0:7)
KCB1(0:7)
RCOUT(0:7)
KCB2(0:7)
SH 5
SH 8
SH 6
CCLK1
DECAY(0:7)
KCD1(0:7)
KCD2(0:7)
SH 1
8
7
6
5
4
3
2
1
D
C
B
A

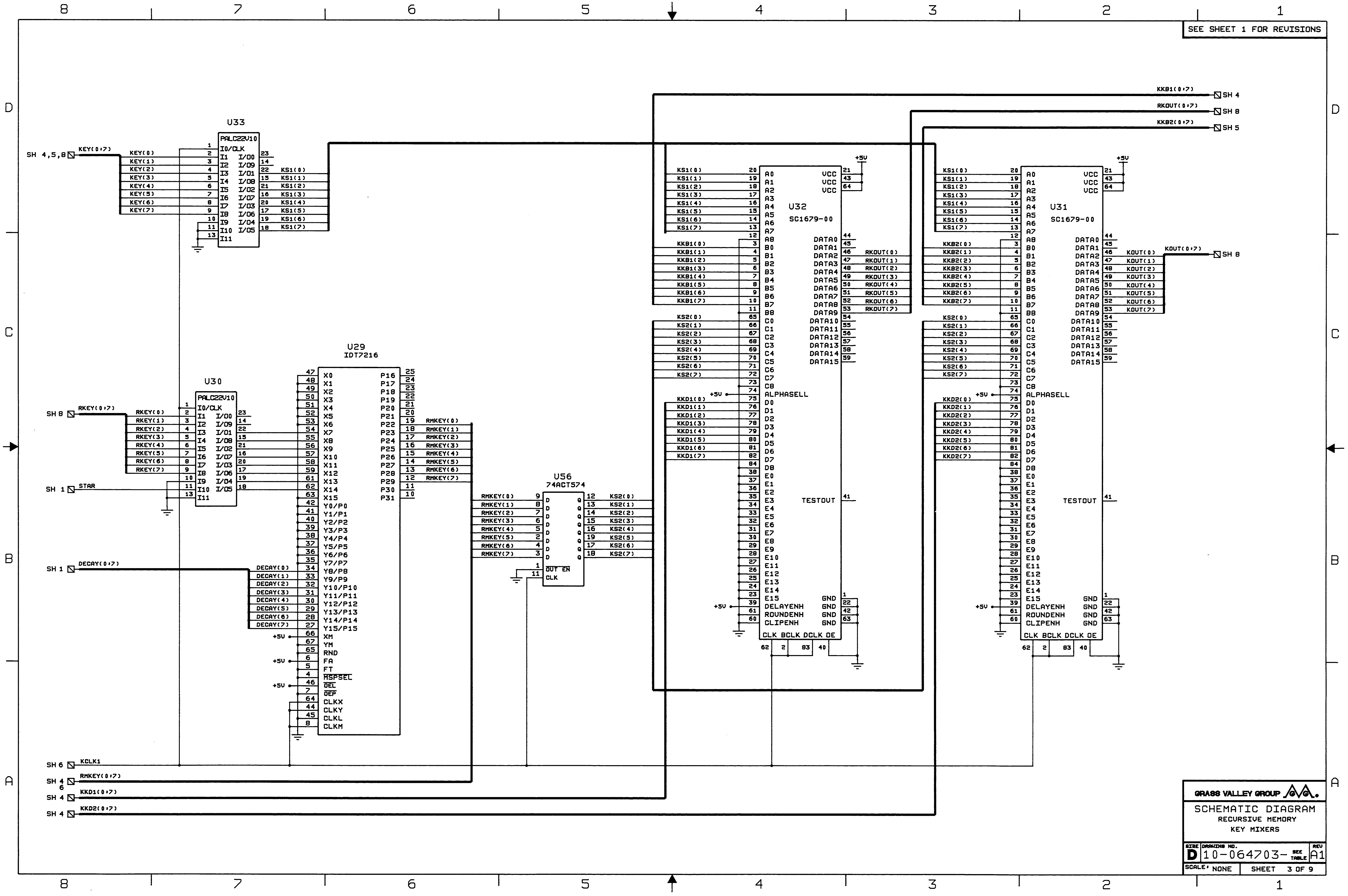
GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
RECURSIVE MEMORY
CHROMA MIXERS

SIZE	DRAWING NO.	REV
D	10-064703- SEE TABLE	A1

SCALE: NONE SHEET 2 OF 9

SEE SHEET 1 FOR REVISIONS



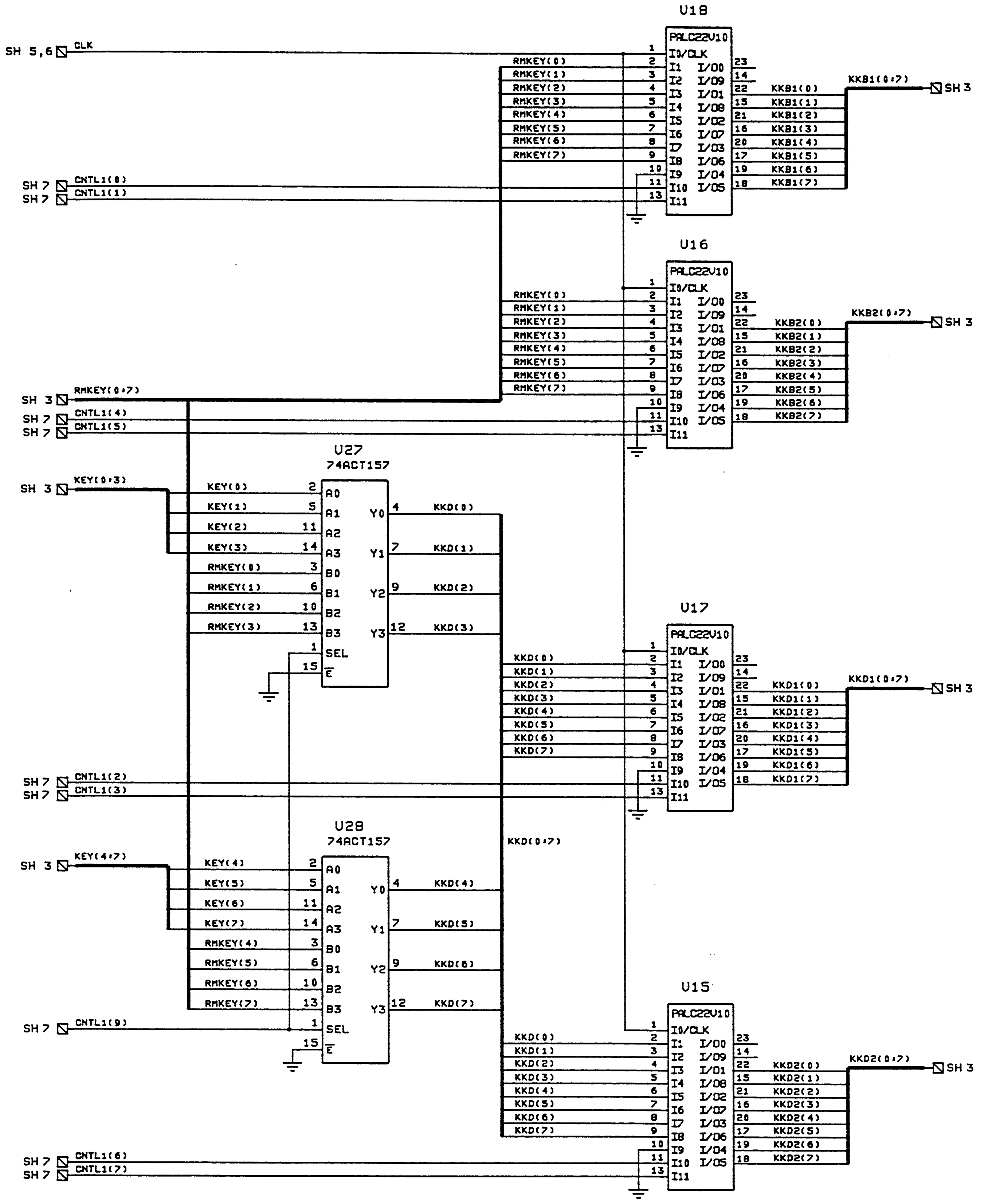
U33
PALC22V10
SH 4,5,8
KEY(0:7)
KEY(0)
KEY(1)
KEY(2)
KEY(3)
KEY(4)
KEY(5)
KEY(6)
KEY(7)
KS1(0)
KS1(1)
KS1(2)
KS1(3)
KS1(4)
KS1(5)
KS1(6)
KS1(7)
U30
PALC22V10
SH 8
RKEY(0:7)
RKEY(0)
RKEY(1)
RKEY(2)
RKEY(3)
RKEY(4)
RKEY(5)
RKEY(6)
RKEY(7)
SH 1
STAR
U29
IDT7216
SH 1
DECAY(0:7)
DECAY(0)
DECAY(1)
DECAY(2)
DECAY(3)
DECAY(4)
DECAY(5)
DECAY(6)
DECAY(7)
RMKEY(0)
RMKEY(1)
RMKEY(2)
RMKEY(3)
RMKEY(4)
RMKEY(5)
RMKEY(6)
RMKEY(7)
U56
74ACT574
KS2(0)
KS2(1)
KS2(2)
KS2(3)
KS2(4)
KS2(5)
KS2(6)
KS2(7)
OUT EN
CLK
U32
SC1679-00
U31
SC1679-00
KKB1(0:7)
SH 4
RKOUT(0:7)
SH 8
KKB2(0:7)
SH 5
KOUT(0:7)
SH 8
KKB1(0)
KKB1(7)
KKB2(0)
KKB2(7)
KKD1(0)
KKD1(7)
KKD2(0)
KKD2(7)
RKOUT(0)
RKOUT(7)
KOUT(0)
KOUT(7)
ALPHASELL
TESTOUT
DELAYENH
ROUNDENH
CLIPENH
CLK BCLK DCLK OE
+5V
SH 6
KCLK1
SH 4 6
RMKEY(0:7)
SH 4
KKD1(0:7)
SH 4
KKD2(0:7)

GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
RECURSIVE MEMORY
KEY MIXERS

SIZE D
DRAWING NO. 10-064703- SEE TABLE
REV A1
SCALE: NONE
SHEET 3 OF 9

SEE SHEET 1 FOR REVISIONS

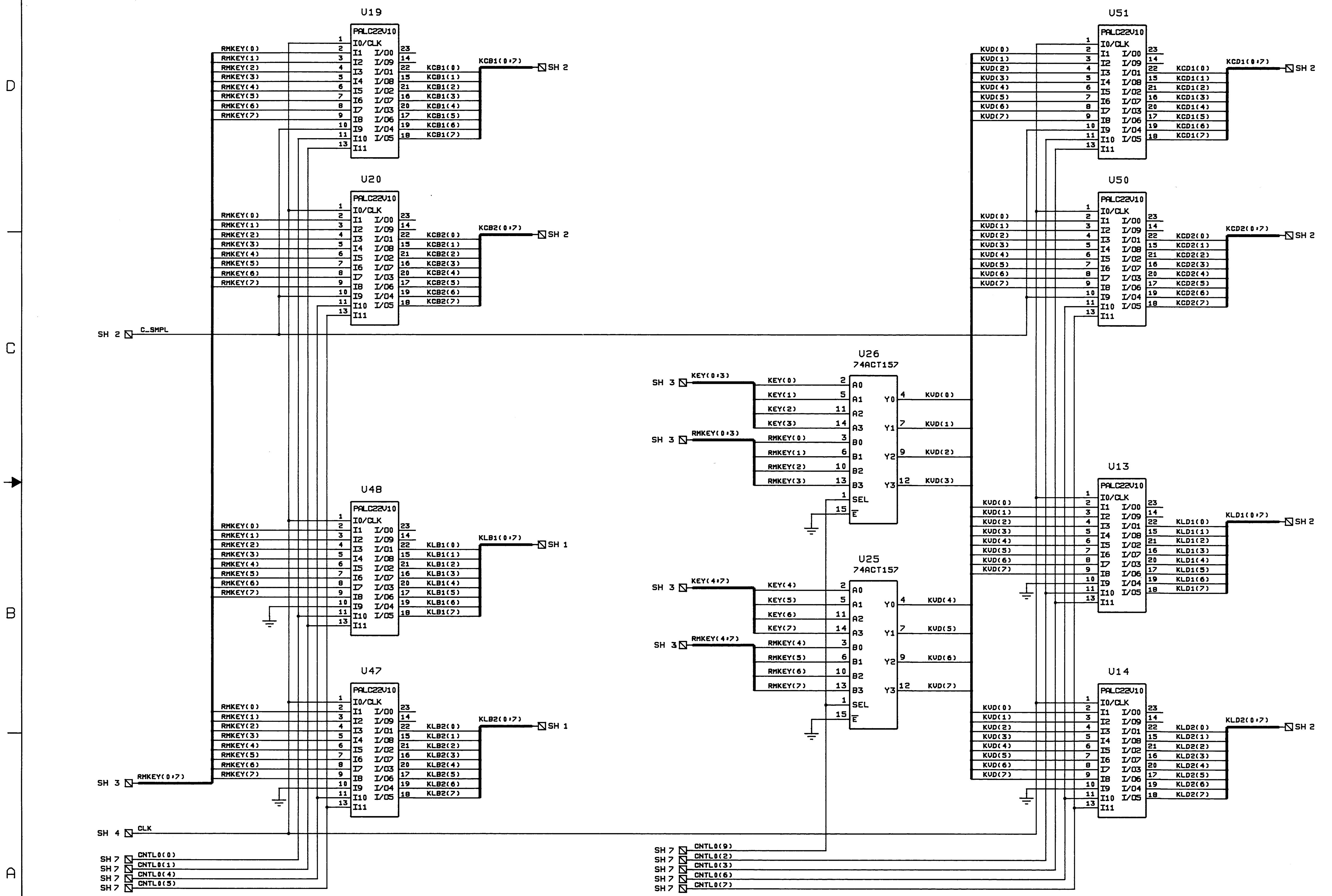

U18
PALC22V10
U16
PALC22V10
U17
PALC22V10
U15
PALC22V10
U27
74ACT157
U28
74ACT157
SH 5,6 CLK
SH 7 CNTL1(0)
SH 7 CNTL1(1)
SH 3 RMKEY(0:7)
SH 7 CNTL1(4)
SH 7 CNTL1(5)
SH 3 KEY(0:3)
SH 7 CNTL1(2)
SH 7 CNTL1(3)
SH 3 KEY(4:7)
SH 7 CNTL1(9)
SH 7 CNTL1(6)
SH 7 CNTL1(7)
KKB1(0:7) SH 3
KKB2(0:7) SH 3
KKD1(0:7) SH 3
KKD2(0:7) SH 3
KKD(0:7)
RMKEY(0)
RMKEY(1)
RMKEY(2)
RMKEY(3)
RMKEY(4)
RMKEY(5)
RMKEY(6)
RMKEY(7)
KEY(0)
KEY(1)
KEY(2)
KEY(3)
KEY(4)
KEY(5)
KEY(6)
KEY(7)
KKD(0)
KKD(1)
KKD(2)
KKD(3)
KKD(4)
KKD(5)
KKD(6)
KKD(7)
KKB1(0)
KKB1(1)
KKB1(2)
KKB1(3)
KKB1(4)
KKB1(5)
KKB1(6)
KKB1(7)
KKB2(0)
KKB2(1)
KKB2(2)
KKB2(3)
KKB2(4)
KKB2(5)
KKB2(6)
KKB2(7)
KKD1(0)
KKD1(1)
KKD1(2)
KKD1(3)
KKD1(4)
KKD1(5)
KKD1(6)
KKD1(7)
KKD2(0)
KKD2(1)
KKD2(2)
KKD2(3)
KKD2(4)
KKD2(5)
KKD2(6)
KKD2(7)
I0/CLK
I1
I2
I3
I4
I5
I6
I7
I8
I9
I10
I11
I/O0
I/O9
I/O1
I/O8
I/O2
I/O7
I/O3
I/O6
I/O4
I/O5
A0
A1
A2
A3
B0
B1
B2
B3
SEL
E
Y0
Y1
Y2
Y3

GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
RECURSIVE MEMORY
KEY SELECT

SIZE D
DRAWING NO. 10-064703- SEE TABLE
REV A1
SCALE: NONE
SHEET 4 OF 9

SEE SHEET 1 FOR REVISIONS


U19
PALC22V10
U20
PALC22V10
U48
PALC22V10
U47
PALC22V10
U51
PALC22V10
U50
PALC22V10
U13
PALC22V10
U14
PALC22V10
U26
74ACT157
U25
74ACT157
I0/CLK
I1 I2 I3 I4 I5 I6 I7 I8 I9 I10 I11
I/O0 I/O9 I/O1 I/O8 I/O2 I/O7 I/O3 I/O6 I/O4 I/O5
A0 A1 A2 A3 B0 B1 B2 B3 SEL E
Y0 Y1 Y2 Y3
RMKEY(0) RMKEY(1) RMKEY(2) RMKEY(3) RMKEY(4) RMKEY(5) RMKEY(6) RMKEY(7)
KCB1(0) KCB1(1) KCB1(2) KCB1(3) KCB1(4) KCB1(5) KCB1(6) KCB1(7)
KCB1(0:7)
SH 2
KCB2(0) KCB2(1) KCB2(2) KCB2(3) KCB2(4) KCB2(5) KCB2(6) KCB2(7)
KCB2(0:7)
SH 2
SH 2
C_SMPL
KLB1(0) KLB1(1) KLB1(2) KLB1(3) KLB1(4) KLB1(5) KLB1(6) KLB1(7)
KLB1(0:7)
SH 1
KLB2(0) KLB2(1) KLB2(2) KLB2(3) KLB2(4) KLB2(5) KLB2(6) KLB2(7)
KLB2(0:7)
SH 1
SH 3
RMKEY(0:7)
SH 4
CLK
SH 7 CNTL0(0)
SH 7 CNTL0(1)
SH 7 CNTL0(4)
SH 7 CNTL0(5)
SH 3
KEY(0:3)
KEY(0) KEY(1) KEY(2) KEY(3)
SH 3
RMKEY(0:3)
KVD(0) KVD(1) KVD(2) KVD(3)
SH 3
KEY(4:7)
KEY(4) KEY(5) KEY(6) KEY(7)
SH 3
RMKEY(4:7)
KVD(4) KVD(5) KVD(6) KVD(7)
SH 7 CNTL0(9)
SH 7 CNTL0(2)
SH 7 CNTL0(3)
SH 7 CNTL0(6)
SH 7 CNTL0(7)
KCD1(0) KCD1(1) KCD1(2) KCD1(3) KCD1(4) KCD1(5) KCD1(6) KCD1(7)
KCD1(0:7)
SH 2
KCD2(0) KCD2(1) KCD2(2) KCD2(3) KCD2(4) KCD2(5) KCD2(6) KCD2(7)
KCD2(0:7)
SH 2
KLD1(0) KLD1(1) KLD1(2) KLD1(3) KLD1(4) KLD1(5) KLD1(6) KLD1(7)
KLD1(0:7)
SH 2
KLD2(0) KLD2(1) KLD2(2) KLD2(3) KLD2(4) KLD2(5) KLD2(6) KLD2(7)
KLD2(0:7)
SH 2
8 7 6 5 4 3 2 1
D C B A

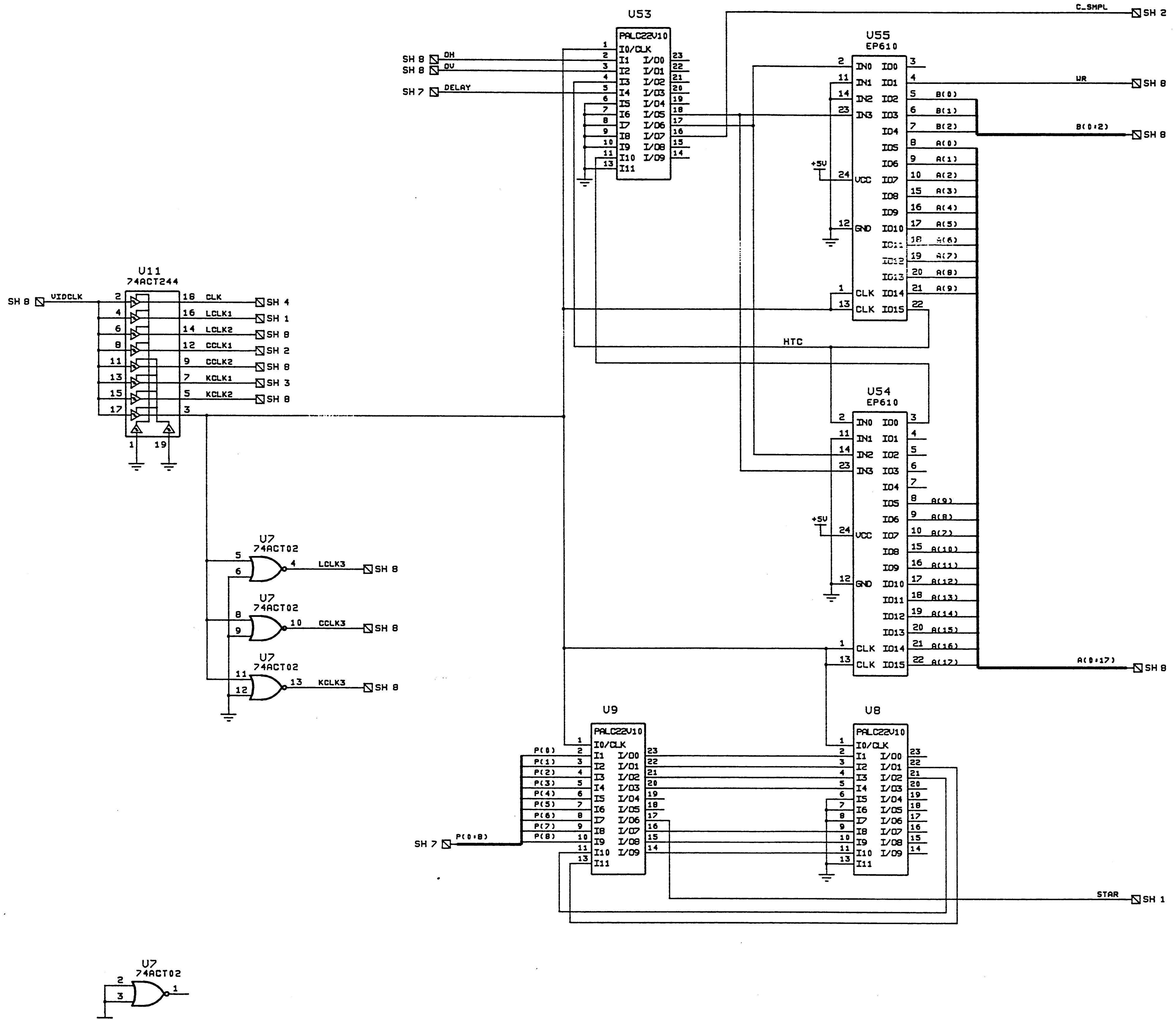
GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
RECURSIVE MEMORY
KEY SELECT

SIZE	DRAWING NO.	REV
D	10-064703- SEE TABLE	A1

SCALE: NONE SHEET 5 OF 9

SEE SHEET 1 FOR REVISIONS


U53
PALC22V10
SH 8 OH
SH 8 OV
SH 7 DELAY
U55
EP610
C_SMPL SH 2
VR SH 8
B(0:2) SH 8
B(0)
B(1)
B(2)
A(0)
A(1)
A(2)
A(3)
A(4)
A(5)
A(6)
A(7)
A(8)
A(9)
+5V
HTC
U54
EP610
A(9)
A(8)
A(2)
A(10)
A(11)
A(12)
A(13)
A(14)
A(15)
A(16)
A(17)
A(0:17) SH 8
U11
74ACT244
SH 8 VIDCLK
CLK SH 4
LCLK1 SH 1
LCLK2 SH 8
CCLK1 SH 2
CCLK2 SH 8
KCLK1 SH 3
KCLK2 SH 8
U7
74ACT02
LCLK3 SH 8
CCLK3 SH 8
KCLK3 SH 8
U9
PALC22V10
P(0)
P(1)
P(2)
P(3)
P(4)
P(5)
P(6)
P(7)
P(8)
SH 7 P(0:8)
U8
PALC22V10
STAR SH 1
IO/CLK
I1
I2
I3
I4
I5
I6
I7
I8
I9
I10
I11
I/O0
I/O1
I/O2
I/O3
I/O4
I/O5
I/O6
I/O7
I/O8
I/O9
IN0
IN1
IN2
IN3
VCC
GND
CLK
IO0
IO1
IO2
IO3
IO4
IO5
IO6
IO7
IO8
IO9
IO10
IO11
IO12
IO13
IO14
IO15

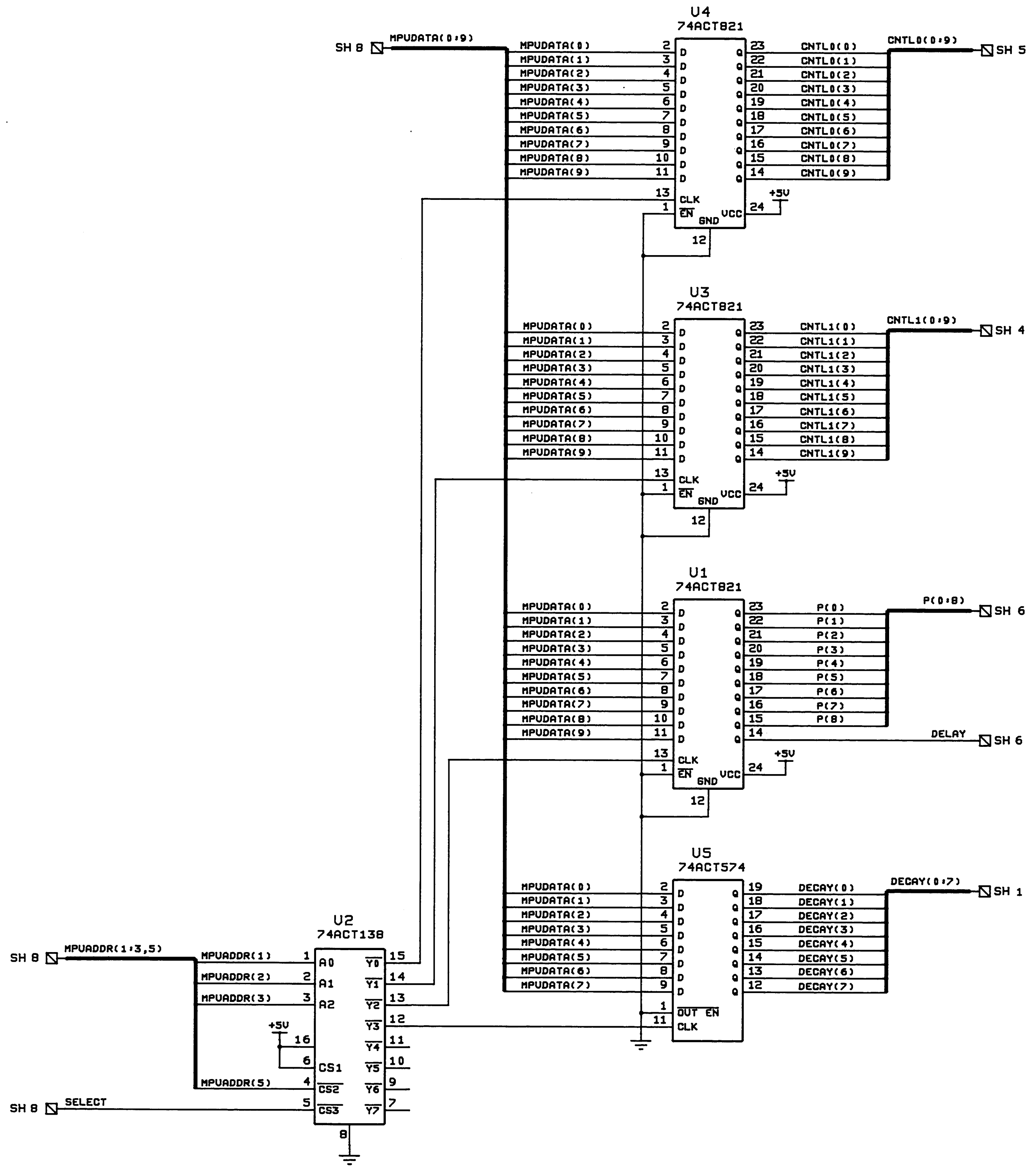
GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
RECURSIVE MEMORY
CLK BUFFERS, RANDOM NUMBER
AND ADDRESS GENERATORS

SIZE	DRAWING NO.		REV
D	10-064703-	SEE TABLE	A1

SCALE: NONE SHEET 6 OF 9

SEE SHEET 1 FOR REVISIONS

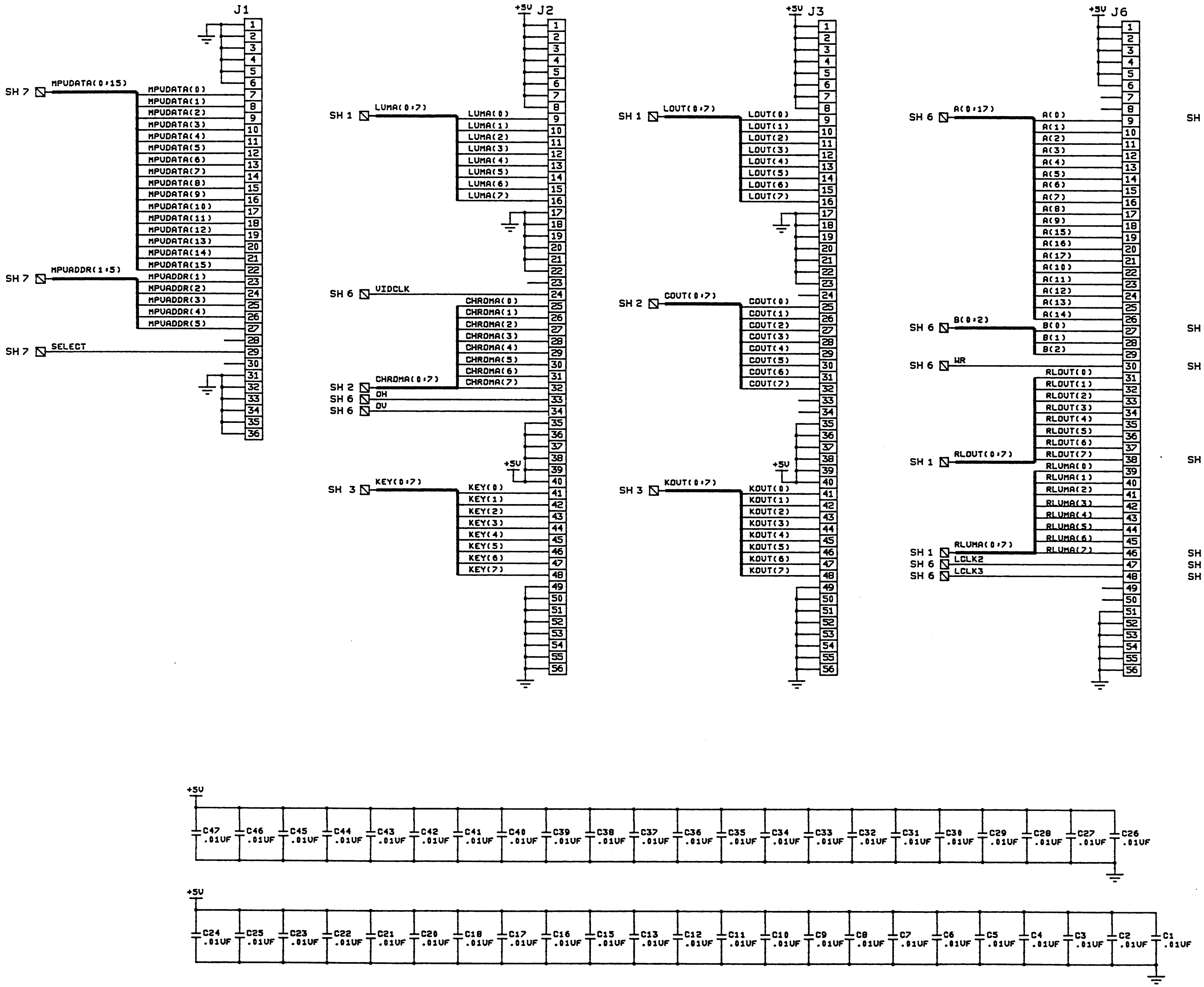

U4
74ACT821
SH 8
MPUDATA(0:9)
MPUDATA(0)
MPUDATA(1)
MPUDATA(2)
MPUDATA(3)
MPUDATA(4)
MPUDATA(5)
MPUDATA(6)
MPUDATA(7)
MPUDATA(8)
MPUDATA(9)
CNTL0(0)
CNTL0(1)
CNTL0(2)
CNTL0(3)
CNTL0(4)
CNTL0(5)
CNTL0(6)
CNTL0(7)
CNTL0(8)
CNTL0(9)
CNTL0(0:9)
SH 5
CLK
EN
GND
VCC
+5V
U3
74ACT821
CNTL1(0)
CNTL1(1)
CNTL1(2)
CNTL1(3)
CNTL1(4)
CNTL1(5)
CNTL1(6)
CNTL1(7)
CNTL1(8)
CNTL1(9)
CNTL1(0:9)
SH 4
U1
74ACT821
P(0)
P(1)
P(2)
P(3)
P(4)
P(5)
P(6)
P(7)
P(8)
P(0:8)
SH 6
DELAY
SH 6
U5
74ACT574
DECAY(0)
DECAY(1)
DECAY(2)
DECAY(3)
DECAY(4)
DECAY(5)
DECAY(6)
DECAY(7)
DECAY(0:7)
SH 1
OUT EN
CLK
U2
74ACT138
SH 8
MPUADDR(1:3,5)
MPUADDR(1)
MPUADDR(2)
MPUADDR(3)
MPUADDR(5)
A0
A1
A2
CS1
CS2
CS3
Y0
Y1
Y2
Y3
Y4
Y5
Y6
Y7
SH 8
SELECT

GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
RECURSIVE MEMORY
MICRO PROCESSOR INTERFACE

SIZE D DRAWING NO. 10-064703- SEE TABLE REV A1
SCALE: NONE SHEET 7 OF 9

SEE SHEET 1 FOR REVISIONS


J1
J2
J3
J6
J5
J4
+5V
SH 7 MPUDATA(0:15)
MPUDATA(0) … MPUDATA(15)
SH 7 MPUADDR(1:5)
MPUADDR(1) … MPUADDR(5)
SH 7 SELECT
SH 1 LUMA(0:7)
LUMA(0) … LUMA(7)
SH 6 VIDCLK
CHROMA(0) … CHROMA(7)
SH 2 CHROMA(0:7)
SH 6 OH
SH 6 OV
SH 3 KEY(0:7)
KEY(0) … KEY(7)
SH 1 LOUT(0:7)
LOUT(0) … LOUT(7)
SH 2 COUT(0:7)
COUT(0) … COUT(7)
SH 3 KOUT(0:7)
KOUT(0) … KOUT(7)
SH 6 A(0:17)
A(0) … A(17)
SH 6 B(0:2)
B(0) B(1) B(2)
SH 6 WR
SH 1 RLOUT(0:7)
RLOUT(0) … RLOUT(7)
RLUMA(0) … RLUMA(7)
SH 1 RLUMA(0:7)
SH 6 LCLK2
SH 6 LCLK3
SH 2 RCOUT(0:7)
RCOUT(0) … RCOUT(7)
RCHROMA(0) … RCHROMA(7)
SH 2 RCHROMA(0:7)
SH 6 CCLK2
SH 6 CCLK3
SH 3 RKOUT(0:7)
RKOUT(0) … RKOUT(7)
RKEY(0) … RKEY(7)
SH 3 RKEY(0:7)
SH 6 KCLK2
SH 6 KCLK3
C1 … C47
.01UF

GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
RECURSIVE MEMORY
CONNECTORS

SIZE	DRAWING NO.		REV
D	10-064703-	SEE TABLE	A1
SCALE: NONE	SHEET 8 OF 9		

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REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC

SEE SHEET 1

SIGNAL NAME	PAGE	SIGNAL NAME	PAGE	SIGNAL NAME	PAGE	SIGNAL NAME	PAGE
+5V	1,2,3,6,7,8	A(0)	6,8	A(1)	6,8	A(10)	6,8
A(11)	6,8	A(12)	6,8	A(13)	6,8	A(14)	6,8
A(15)	6,8	A(16)	6,8	A(17)	6,8	A(2)	6,8
A(3)	6,8	A(4)	6,8	A(5)	6,8	A(6)	6,8
A(7)	6,8	A(8)	6,8	A(9)	6,8	B(0)	6,8
B(1)	6,8	B(2)	6,8	CCLK1	2,6	CCLK2	6,8
CCLK3	6,8	CHROMA(0)	2,8	CHROMA(1)	2,8	CHROMA(2)	2,8
CHROMA(3)	2,8	CHROMA(4)	2,8	CHROMA(5)	2,8	CHROMA(6)	2,8
CHROMA(7)	2,8	CLK	4,5,6	CNTL0(0)	5,7	CNTL0(1)	5,7
CNTL0(2)	5,7	CNTL0(3)	5,7	CNTL0(4)	5,7	CNTL0(5)	5,7
CNTL0(6)	5,7	CNTL0(7)	5,7	CNTL0(8)	7	CNTL0(9)	5,7
CNTL1(0)	4,7	CNTL1(1)	4,7	CNTL1(2)	4,7	CNTL1(3)	4,7
CNTL1(4)	4,7	CNTL1(5)	4,7	CNTL1(6)	4,7	CNTL1(7)	4,7
CNTL1(8)	7	CNTL1(9)	4,7	COUT(0)	2,8	COUT(1)	2,8
COUT(2)	2,8	COUT(3)	2,8	COUT(4)	2,8	COUT(5)	2,8
COUT(6)	2,8	COUT(7)	2,8	CS1(0)	2	CS1(1)	2
CS1(2)	2	CS1(3)	2	CS1(4)	2	CS1(5)	2
CS1(6)	2	CS1(7)	2	CS2(0)	2	CS2(1)	2
CS2(2)	2	CS2(3)	2	CS2(4)	2	CS2(5)	2
CS2(6)	2	CS2(7)	2	C_SMPL	2,5,6	DECAY(0)	1,2,3,7
DECAY(1)	1,2,3,7	DECAY(2)	1,2,3,7	DECAY(3)	1,2,3,7	DECAY(4)	1,2,3,7
DECAY(5)	1,2,3,7	DECAY(6)	1,2,3,7	DECAY(7)	1,2,3,7	DELAY	6,7
GND	1,2,3,4,5,6,7,8	HTC	6	KCB1(0)	2,5	KCB1(1)	2,5
KCB1(2)	2,5	KCB1(3)	2,5	KCB1(4)	2,5	KCB1(5)	2,5
KCB1(6)	2,5	KCB1(7)	2,5	KCB2(0)	2,5	KCB2(1)	2,5
KCB2(2)	2,5	KCB2(3)	2,5	KCB2(4)	2,5	KCB2(5)	2,5
KCB2(6)	2,5	KCB2(7)	2,5	KCD1(0)	2,5	KCD1(1)	2,5
KCD1(2)	2,5	KCD1(3)	2,5	KCD1(4)	2,5	KCD1(5)	2,5
KCD1(6)	2,5	KCD1(7)	2,5	KCD2(0)	2,5	KCD2(1)	2,5
KCD2(2)	2,5	KCD2(3)	2,5	KCD2(4)	2,5	KCD2(5)	2,5
KCD2(6)	2,5	KCD2(7)	2,5	KCLK1	3,6	KCLK2	6,8
KCLK3	6,8	KEY(0)	3,4,5,8	KEY(1)	3,4,5,8	KEY(2)	3,4,5,8
KEY(3)	3,4,5,8	KEY(4)	3,4,5,8	KEY(5)	3,4,5,8	KEY(6)	3,4,5,8
KEY(7)	3,4,5,8	KKB1(0)	3,4	KKB1(1)	3,4	KKB1(2)	3,4
KKB1(3)	3,4	KKB1(4)	3,4	KKB1(5)	3,4	KKB1(6)	3,4
KKB1(7)	3,4	KKB2(0)	3,4	KKB2(1)	3,4	KKB2(2)	3,4
KKB2(3)	3,4	KKB2(4)	3,4	KKB2(5)	3,4	KKB2(6)	3,4
KKB2(7)	3,4	KKD(0)	4	KKD(1)	4	KKD(2)	4
KKD(3)	4	KKD(4)	4	KKD(5)	4	KKD(6)	4
KKD(7)	4	KKD1(0)	3,4	KKD1(1)	3,4	KKD1(2)	3,4
KKD1(3)	3,4	KKD1(4)	3,4	KKD1(5)	3,4	KKD1(6)	3,4
KKD1(7)	3,4	KKD2(0)	3,4	KKD2(1)	3,4	KKD2(2)	3,4
KKD2(3)	3,4	KKD2(4)	3,4	KKD2(5)	3,4	KKD2(6)	3,4
KKD2(7)	3,4	KLB1(0)	1,5	KLB1(1)	1,5	KLB1(2)	1,5
KLB1(3)	1,5	KLB1(4)	1,5	KLB1(5)	1,5	KLB1(6)	1,5
KLB1(7)	1,5	KLB2(0)	1,5	KLB2(1)	1,5	KLB2(2)	1,5
KLB2(3)	1,5	KLB2(4)	1,5	KLB2(5)	1,5	KLB2(6)	1,5
KLB2(7)	1,5	KLD1(0)	1,5	KLD1(1)	1,5	KLD1(2)	1,5
KLD1(3)	1,5	KLD1(4)	1,5	KLD1(5)	1,5	KLD1(6)	1,5
KLD1(7)	1,5	KLD2(0)	1,5	KLD2(1)	1,5	KLD2(2)	1,5
KLD2(3)	1,5	KLD2(4)	1,5	KLD2(5)	1,5	KLD2(6)	1,5
KLD2(7)	1,5	KOUT(0)	3,8	KOUT(1)	3,8	KOUT(2)	3,8
KOUT(3)	3,8	KOUT(4)	3,8	KOUT(5)	3,8	KOUT(6)	3,8
KOUT(7)	3,8	KS1(0)	3	KS1(1)	3	KS1(2)	3
KS1(3)	3	KS1(4)	3	KS1(5)	3	KS1(6)	3
KS1(7)	3	KS2(0)	3	KS2(1)	3	KS2(2)	3
KS2(3)	3	KS2(4)	3	KS2(5)	3	KS2(6)	3
KS2(7)	3	KVD(0)	5	KVD(1)	5	KVD(2)	5
KVD(3)	5	KVD(4)	5	KVD(5)	5	KVD(6)	5
KVD(7)	5	LCLK1	1,6	LCLK2	6,8	LCLK3	6,8
LOUT(0)	1,8	LOUT(1)	1,8	LOUT(2)	1,8	LOUT(3)	1,8
LOUT(4)	1,8	LOUT(5)	1,8	LOUT(6)	1,8	LOUT(7)	1,8
LS1(0)	1	LS1(1)	1	LS1(2)	1	LS1(3)	1
LS1(4)	1	LS1(5)	1	LS1(6)	1	LS1(7)	1
LS1(8)	1	LS2(0)	1	LS2(1)	1	LS2(2)	1
LS2(3)	1	LS2(4)	1	LS2(5)	1	LS2(6)	1
LS2(7)	1	LS2(8)	1	LUMA(0)	1,8	LUMA(1)	1,8
LUMA(2)	1,8	LUMA(3)	1,8	LUMA(4)	1,8	LUMA(5)	1,8
LUMA(6)	1,8	LUMA(7)	1,8	MPUADDR(1)	7,8	MPUADDR(2)	7,8
MPUADDR(3)	7,8	MPUADDR(4)	8	MPUADDR(5)	7,8	MPUDATA(0)	7,8
MPUDATA(1)	7,8	MPUDATA(10)	8	MPUDATA(11)	8	MPUDATA(12)	8
MPUDATA(13)	8	MPUDATA(14)	8	MPUDATA(15)	8	MPUDATA(2)	7,8

SIGNAL NAME	PAGE	SIGNAL NAME	PAGE	SIGNAL NAME	PAGE	SIGNAL NAME	PAGE
MPUDATA(3)	7,8	MPUDATA(4)	7,8	MPUDATA(5)	7,8	MPUDATA(6)	7,8
MPUDATA(7)	7,8	MPUDATA(8)	7,8	MPUDATA(9)	7,8	OH	6,8
OV	6,8	P(0)	6,7	P(1)	6,7	P(2)	6,7
P(3)	6,7	P(4)	6,7	P(5)	6,7	P(6)	6,7
P(7)	6,7	P(8)	6,7	RCHROMA(0)	2,8	RCHROMA(1)	2,8
RCHROMA(2)	2,8	RCHROMA(3)	2,8	RCHROMA(4)	2,8	RCHROMA(5)	2,8
RCHROMA(6)	2,8	RCHROMA(7)	2,8	RCOUT(0)	2,8	RCOUT(1)	2,8
RCOUT(2)	2,8	RCOUT(3)	2,8	RCOUT(4)	2,8	RCOUT(5)	2,8
RCOUT(6)	2,8	RCOUT(7)	2,8	RKEY(0)	3,8	RKEY(1)	3,8
RKEY(2)	3,8	RKEY(3)	3,8	RKEY(4)	3,8	RKEY(5)	3,8
RKEY(6)	3,8	RKEY(7)	3,8	RKOUT(0)	3,8	RKOUT(1)	3,8
RKOUT(2)	3,8	RKOUT(3)	3,8	RKOUT(4)	3,8	RKOUT(5)	3,8
RKOUT(6)	3,8	RKOUT(7)	3,8	RLOUT(0)	1,8	RLOUT(1)	1,8
RLOUT(2)	1,8	RLOUT(3)	1,8	RLOUT(4)	1,8	RLOUT(5)	1,8
RLOUT(6)	1,8	RLOUT(7)	1,8	RLUMA(0)	1,8	RLUMA(1)	1,8
RLUMA(2)	1,8	RLUMA(3)	1,8	RLUMA(4)	1,8	RLUMA(5)	1,8
RLUMA(6)	1,8	RLUMA(7)	1,8	RMKEY(0)	3,4,5	RMKEY(1)	3,4,5
RMKEY(2)	3,4,5	RMKEY(3)	3,4,5	RMKEY(4)	3,4,5	RMKEY(5)	3,4,5
RMKEY(6)	3,4,5	RMKEY(7)	3,4,5	SELECT	7,8	STAR	1,2,3,6
VIDCLK	6,8	WR	6,8				

REF DESG	PAGE	REF DESG	PAGE	REF DESG	PAGE	REF DESG	PAGE	REF DESG	PAGE	REF DESG	PAGE	REF DESG	PAGE
C1	8	C2	8	C3	8	C4	8	C5	8	C6	8	C7	8
C8	8	C9	8	C10	8	C11	8	C12	8	C13	8	C15	8
C16	8	C17	8	C18	8	C20	8	C21	8	C22	8	C23	8
C24	8	C25	8	C26	8	C27	8	C28	8	C29	8	C30	8
C31	8	C32	8	C33	8	C34	8	C35	8	C36	8	C37	8
C38	8	C39	8	C40	8	C41	8	C42	8	C43	8	C44	8
C45	8	C46	8	C47	8	J1	8	J2	8	J3	8	J4	8
J5	8	J6	8	U1	7	U2	7	U3	7	U4	7	U5	7
U7	6	U8	6	U9	6	U11	6	U12	2	U13	5	U14	5
U15	4	U16	4	U17	4	U18	4	U19	5	U20	5	U25	5
U26	5	U27	4	U28	4	U29	3	U30	3	U31	3	U32	3
U33	3	U34	2	U35	2	U36	2	U37	2	U38	2	U39	1
U40	1	U41	1	U42	1	U43	1	U47	5	U48	5	U50	5
U51	5	U53	6	U54	6	U55	6	U56	3	U57	1		

	CADNETIX
DPM-100	
USED ON	NEXT ASSY
APPLICATION	
DISTRIBUTION	

GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA A TEKTRONIX COMPANY

DRAWN DATE
ENGINEER
CHECKED DATE
APPROVED DATE
PILOT RUN RLSE DATE
ENGRG RLSE DATE

SCHEMATIC DIAGRAM
RECURSIVE MEMORY
CROSS REFERENCE

SIZE D
DRAWING NO. 10-064703-SEE TABLE A1
SCALE: NONE
SHEET 9 OF 9

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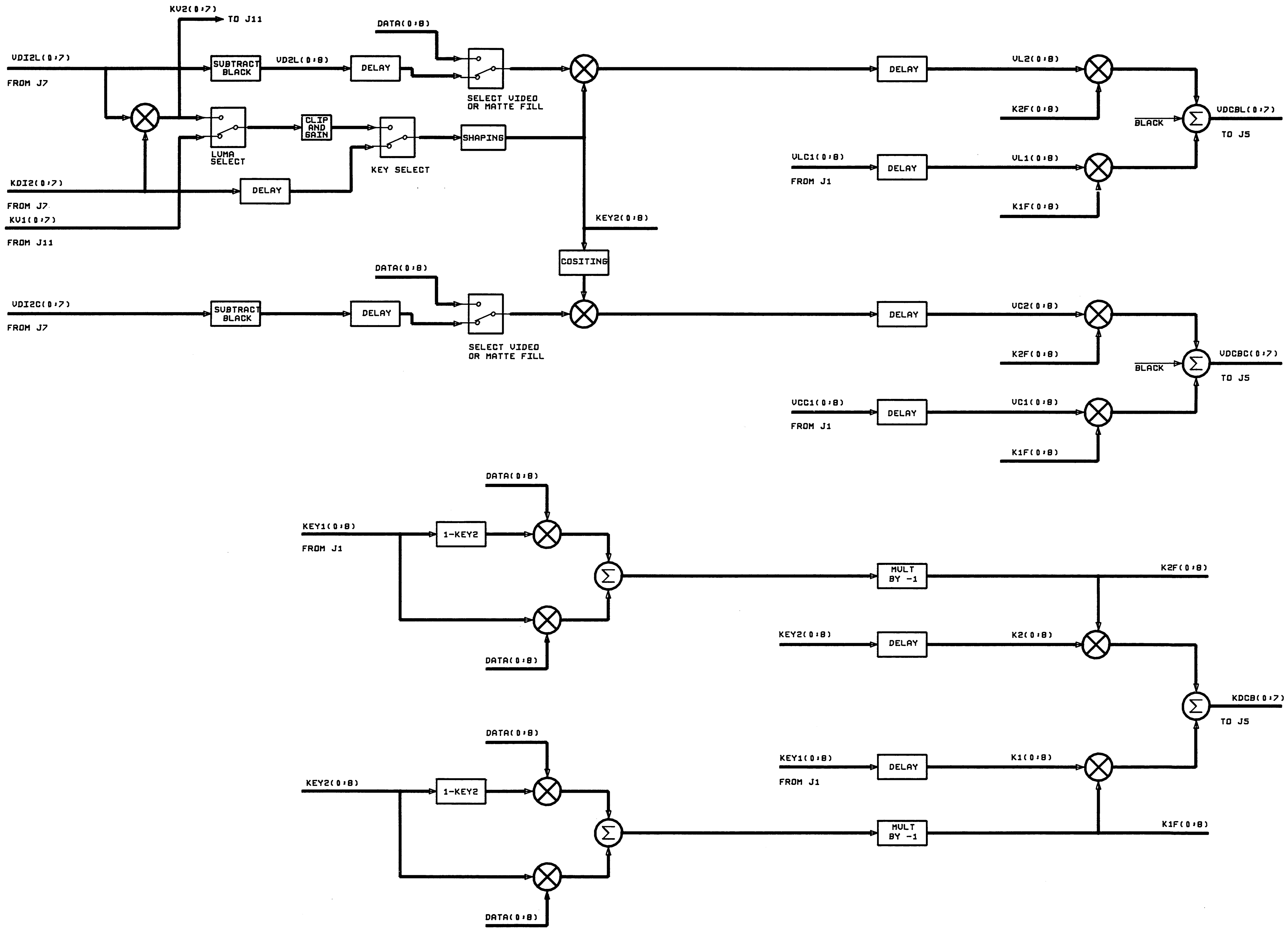
REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
A1	——	——	——	——	——		——

PILOT RUN RELEASE


KV2(0:7)
TO J11
VDI2L(0:7)
FROM J7
SUBTRACT BLACK
VD2L(0:8)
DELAY
DATA(0:8)
SELECT VIDEO OR MATTE FILL
LUMA SELECT
CLIP AND GAIN
KEY SELECT
SHAPING
KDI2(0:7)
FROM J7
DELAY
KV1(0:7)
FROM J11
KEY2(0:8)
COSITING
DATA(0:8)
VDI2C(0:7)
FROM J7
SUBTRACT BLACK
DELAY
SELECT VIDEO OR MATTE FILL
DELAY
VL2(0:8)
K2F(0:8)
BLACK
VDCBL(0:7)
TO J5
VLC1(0:8)
FROM J1
DELAY
VL1(0:8)
K1F(0:8)
DELAY
VC2(0:8)
K2F(0:8)
BLACK
VDCBC(0:7)
TO J5
VCC1(0:8)
FROM J1
DELAY
VC1(0:8)
K1F(0:8)
DATA(0:8)
KEY1(0:8)
FROM J1
1-KEY2
DATA(0:8)
MULT BY -1
K2F(0:8)
KEY2(0:8)
DELAY
K2(0:8)
KDCB(0:7)
TO J5
DATA(0:8)
KEY2(0:8)
1-KEY2
KEY1(0:8)
FROM J1
DELAY
K1(0:8)
MULT BY -1
K1F(0:8)
DATA(0:8)

GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA A TEKTRONIX COMPANY

	CADNETIX	DRAWN KF DATE 11/21/89	BLOCK DIAGRAM COMBINER CHANNEL 2
		ENGINEER JOHN P	
		CHECKED DATE	
DPM-100		APPROVED JP DATE 1-5-90	SIZE D DRAWING NO. 00-064704-00 A1
USED ON	NEXT ASSY	PILOT RUN REL. JP DATE 1-9-90	
APPLICATION		PROD RUN REL. DATE	SCALE: NONE SHEET 1 OF 1
DISTRIBUTION			

B 07-064704-00 A1

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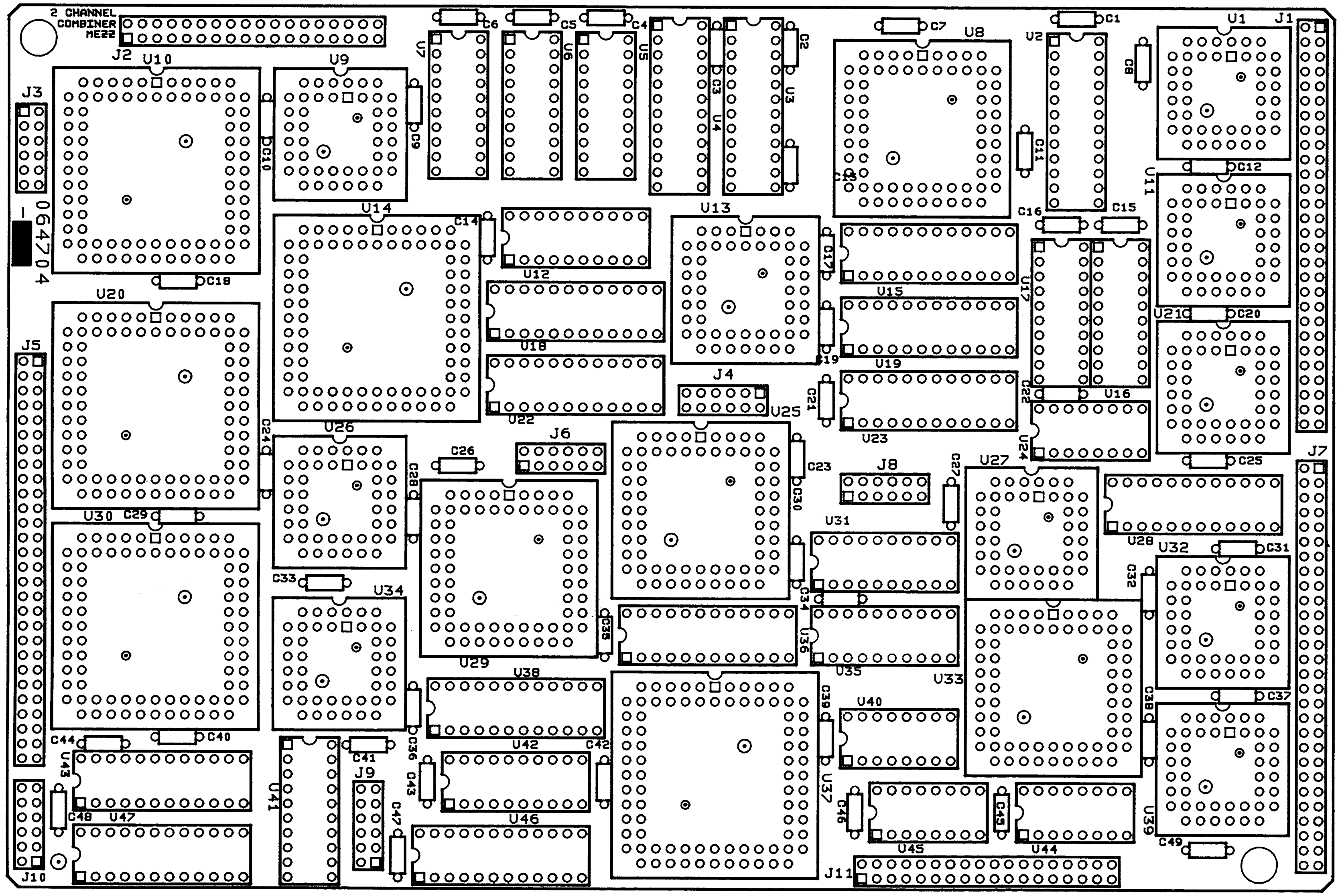
REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
A1	W488	——	——	——	——		——


2 CHANNEL COMBINER ME22
J1
J2
J3
J4
J5
J6
J7
J8
J9
J10
J11
U1
U2
U3
U4
U5
U6
U7
U8
U9
U10
U11
U12
U13
U14
U15
U16
U17
U18
U19
U20
U21
U22
U23
U24
U25
U26
U27
U28
U29
U30
U31
U32
U33
U34
U35
U36
U37
U38
U39
U40
U41
U42
U43
U44
U45
U46
U47
C1
C2
C3
C4
C5
C6
C7
C8
C9
C10
C11
C12
C14
C15
C16
C17
C18
C19
C20
C21
C22
C23
C24
C25
C26
C27
C28
C29
C30
C31
C32
C33
C34
C35
C36
C37
C38
C39
C40
C41
C42
C43
C44
C45
C46
C47
C48
C49
1 064704

NOTES:

1. SCHEMATIC REFERENCE: D10-064704-00.

3. REFER TO SCHEMATIC FOR EDGE CONNECTOR PIN OUT INFORMATION.

	CADNETIX
DPM 100	064704
USED ON	NEXT ASSY
APPLICATION	
DISTRIBUTION	

GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA *A TEKTRONIX COMPANY*

AC 13SEP89
AP 11-15-89
AP 11-14-89

COMPONENT LOCATION DIAGRAM
SECOND CHANNEL
COMBINER MEZZANINE

B 07-064704-00 A1

NONE SHEET 1 OF 1

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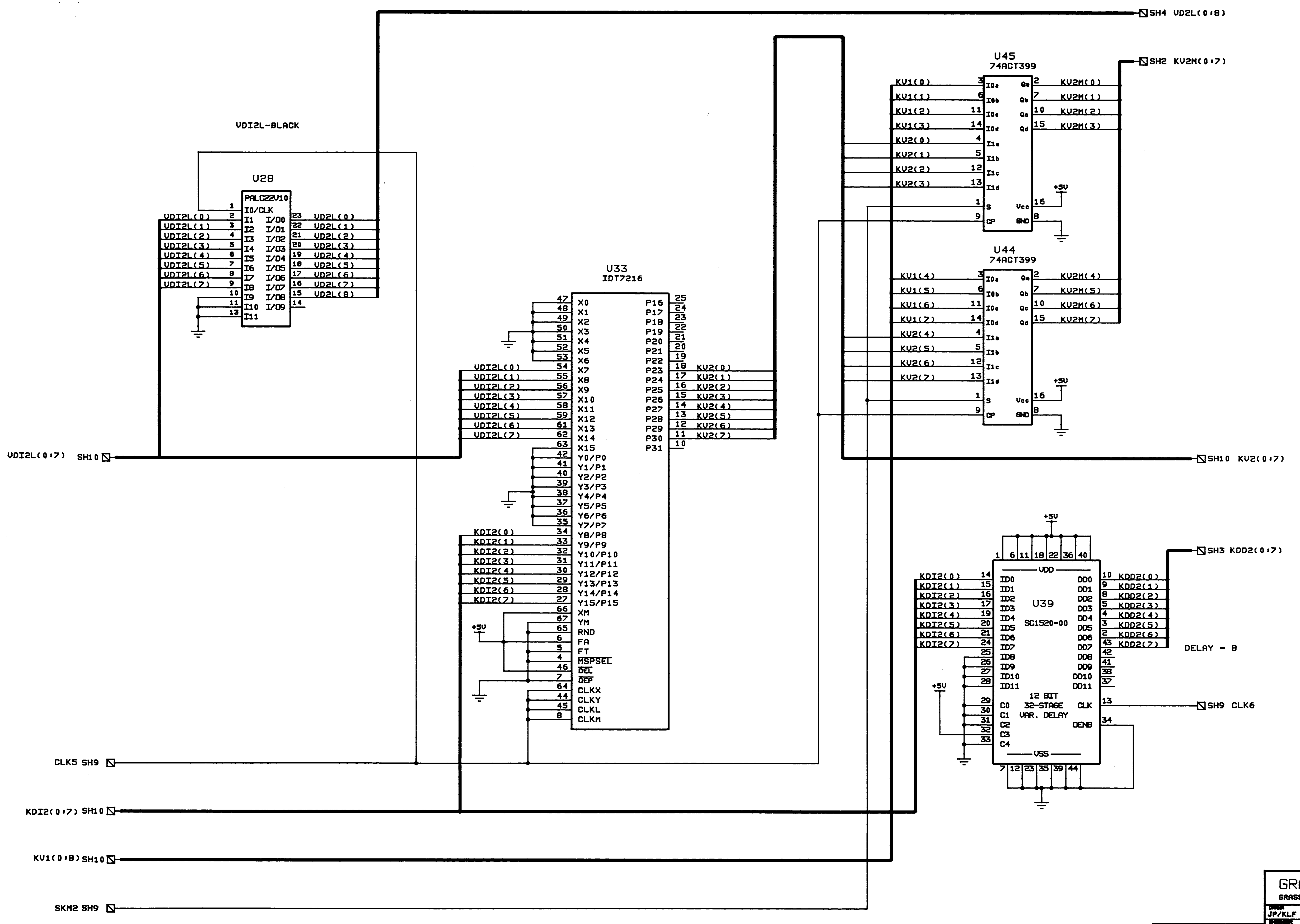
REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
A1	W408	EV	11/89	-			—

PILOT RUN RLSE


SH4 VD2L(0:8)
SH2 KV2M(0:7)
VDI2L-BLACK
U28
PALC22V10
I0/CLK
VDI2L(0) … VDI2L(7)
VD2L(0) … VD2L(8)
U33
IDT7216
X0 … X15
Y0/P0 … Y15/P15
P16 … P31
XM
YM
RND
FA
FT
MSPSEL
OEL
OEP
CLKX
CLKY
CLKL
CLKM
+5V
KV2(0) … KV2(7)
KDI2(0) … KDI2(7)
U45
74ACT399
U44
74ACT399
KV1(0) … KV1(7)
KV2M(0) … KV2M(7)
I0a I0b I0c I0d I1a I1b I1c I1d
Qa Qb Qc Qd
S
CP
Vcc
GND
SH10 KV2(0:7)
VDI2L(0:7) SH10
U39
SC1520-00
VDD
VSS
ID0 … ID11
DD0 … DD11
C0 C1 C2 C3 C4
12 BIT
32-STAGE
VAR. DELAY
CLK
OENB
KDD2(0) … KDD2(7)
SH3 KDD2(0:7)
DELAY = 8
SH9 CLK6
CLK5 SH9
KDI2(0:7) SH10
KV1(0:8) SH10
SKM2 SH9

GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA A TEKTRONIX COMPANY

	CADNETIX
DPM-100	
USED ON	NEXT ASSY
APPLICATION	
DISTRIBUTION	

DRAWN JP/KLF DATE 5JULY89
ENGINEER JP
CHECKED DATE
APPROVED DATE 9-22-89
PILOT RUN RLSE DATE 11-14-89
PROD RLSE DATE

SCHEMATIC DIAGRAM
2-CHANNEL COMBINER MEZZANINE
LUMA VIDEO IN, CHANNEL 2

SIZE D DRAWING NO. 10-064704-00 A1
SCALE NONE SHEET 1 OF 12

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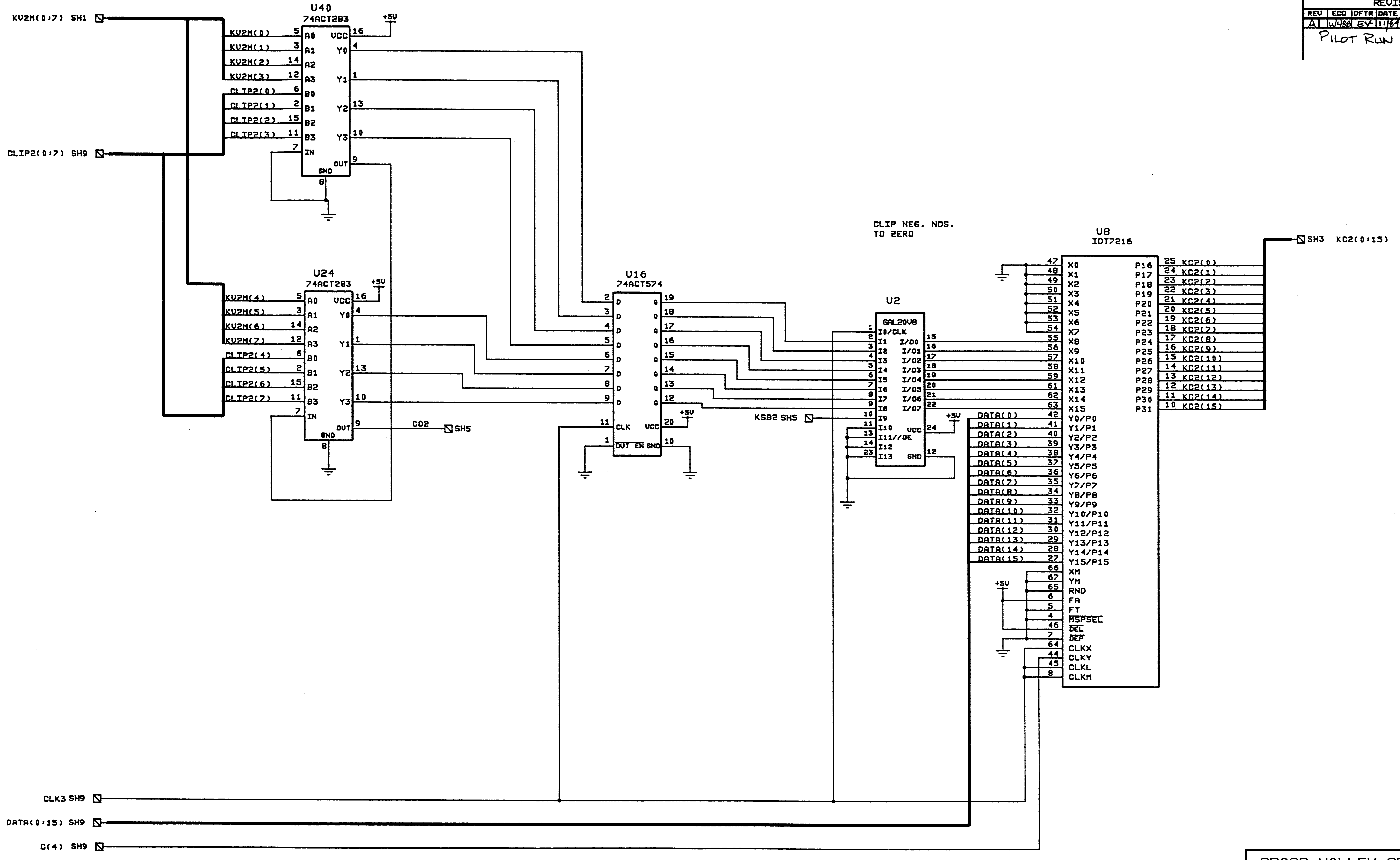
REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
A	W488	EY	11/89	-	[illegible]		—

Pilot Run Rlse



KV2M(0:7) SH1
CLIP2(0:7) SH9
U40
74ACT283
+5V
KV2M(0)
KV2M(1)
KV2M(2)
KV2M(3)
CLIP2(0)
CLIP2(1)
CLIP2(2)
CLIP2(3)
A0 A1 A2 A3 B0 B1 B2 B3 IN
VCC Y0 Y1 Y2 Y3 OUT GND
U24
74ACT283
KV2M(4)
KV2M(5)
KV2M(6)
KV2M(7)
CLIP2(4)
CLIP2(5)
CLIP2(6)
CLIP2(7)
CO2
SH5
U16
74ACT574
D Q CLK VCC OUT EN GND
CLIP NEG. NOS.
TO ZERO
U2
GAL20V8
I0/CLK I1 I2 I3 I4 I5 I6 I7 I8 I9 I10 I11//OE I12 I13
I/O0 I/O1 I/O2 I/O3 I/O4 I/O5 I/O6 I/O7 VCC GND
KSB2 SH5
U8
IDT7216
X0 X1 X2 X3 X4 X5 X6 X7 X8 X9 X10 X11 X12 X13 X14 X15
Y0/P0 Y1/P1 Y2/P2 Y3/P3 Y4/P4 Y5/P5 Y6/P6 Y7/P7 Y8/P8 Y9/P9 Y10/P10 Y11/P11 Y12/P12 Y13/P13 Y14/P14 Y15/P15
XM YM RND FA FT MSPSEL DEL DEP CLKX CLKY CLKL CLKM
P16 P17 P18 P19 P20 P21 P22 P23 P24 P25 P26 P27 P28 P29 P30 P31
DATA(0) DATA(1) DATA(2) DATA(3) DATA(4) DATA(5) DATA(6) DATA(7) DATA(8) DATA(9) DATA(10) DATA(11) DATA(12) DATA(13) DATA(14) DATA(15)
KC2(0) KC2(1) KC2(2) KC2(3) KC2(4) KC2(5) KC2(6) KC2(7) KC2(8) KC2(9) KC2(10) KC2(11) KC2(12) KC2(13) KC2(14) KC2(15)
SH3 KC2(0:15)
CLK3 SH9
DATA(0:15) SH9
C(4) SH9

GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA A TEKTRONIX COMPANY

DRAWN JP/KLF DATE 5JULY89
ENGINEER JP
CHECKED DATE
APPROVED DATE
PILOT RUN RLSE DATE 11-14-89
PROD RLSE DATE

SCHEMATIC DIAGRAM
2-CHANNEL COMBINER MEZZANINE
CLIP AND GAIN, CHANNEL 2

SIZE D DRAWING NO. 10-064704-00 A1
SCALE NONE SHEET 2 OF 12

	CADNETIX
DPM-100	
USED ON	NEXT ASSY
APPLICATION	
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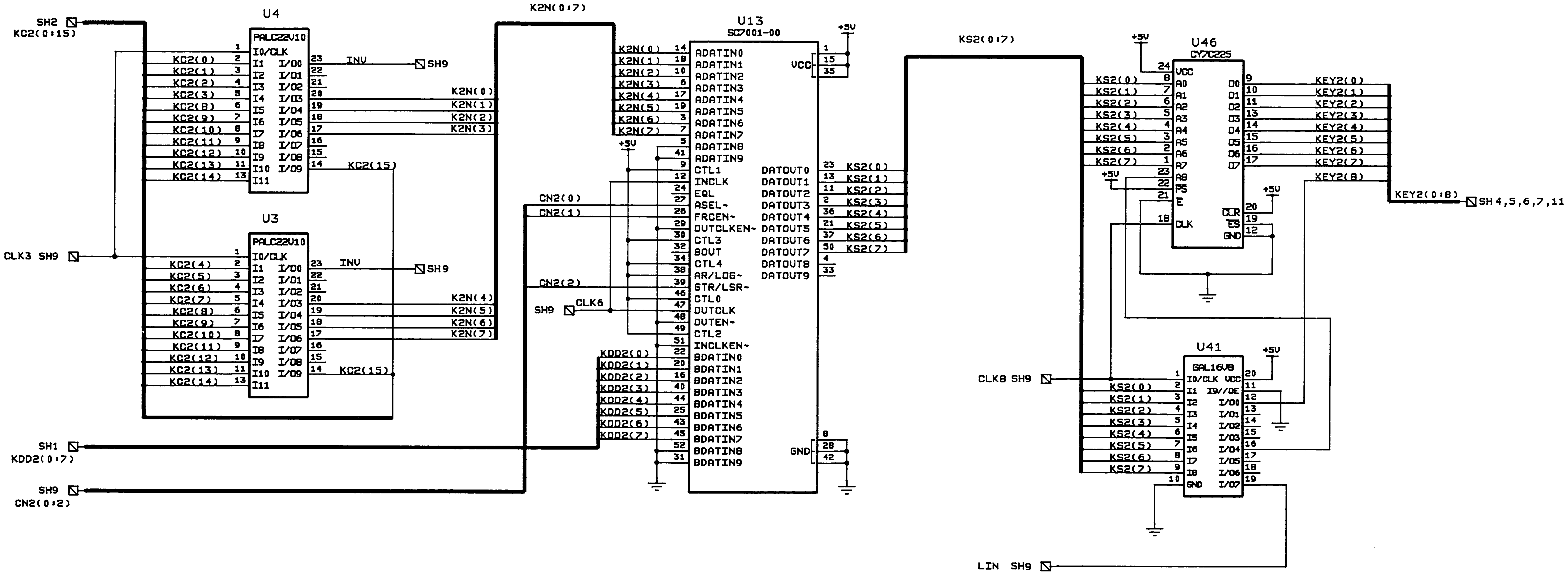
REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
A1	W488	EY	11 89	-	JVV		—

PILOT RUN RLSE


SH2
KC2(0:15)
U4
PALC22V10
INV
SH9
K2N(0:7)
K2N(0)
K2N(1)
K2N(2)
K2N(3)
KC2(15)
U3
PALC22V10
CLK3 SH9
K2N(4)
K2N(5)
K2N(6)
K2N(7)
U13
SC7001-00
+5V
VCC
GND
ADATIN0
ADATIN1
ADATIN2
ADATIN3
ADATIN4
ADATIN5
ADATIN6
ADATIN7
ADATIN8
ADATIN9
CTL1
INCLK
EQL
ASEL-
FRCEN-
OUTCLKEN-
CTL3
BOUT
CTL4
AR/LOG-
STR/LSR-
CTL0
OUTCLK
OUTEN-
CTL2
INCLKEN-
BDATIN0
BDATIN1
BDATIN2
BDATIN3
BDATIN4
BDATIN5
BDATIN6
BDATIN7
BDATIN8
BDATIN9
DATOUT0
DATOUT1
DATOUT2
DATOUT3
DATOUT4
DATOUT5
DATOUT6
DATOUT7
DATOUT8
DATOUT9
CN2(0)
CN2(1)
CN2(2)
SH9 CLK6
KDD2(0)
KDD2(7)
SH1
KDD2(0:7)
SH9
CN2(0:2)
KS2(0:7)
U46
CY7C225
KEY2(0)
KEY2(1)
KEY2(2)
KEY2(3)
KEY2(4)
KEY2(5)
KEY2(6)
KEY2(7)
KEY2(8)
KEY2(0:8)
SH4,5,6,7,11
U41
GAL16V8
CLK8 SH9
LIN SH9

GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA A TEKTRONIX COMPANY

DRAWN	JP/KLF 5JULY89
ENGINEER	JP
CHECKED	
APPROVED	JVV
PILOT RUN RLSE	JVV 11-14-89
DESIGN RLSE	

SCHEMATIC DIAGRAM
2-CHANNEL COMBINER MEZZANINE
CLIP AND GAIN, CHANNEL 2 CONT.

	CADNETIX
DPM-100	
USED ON	NEXT ASSY
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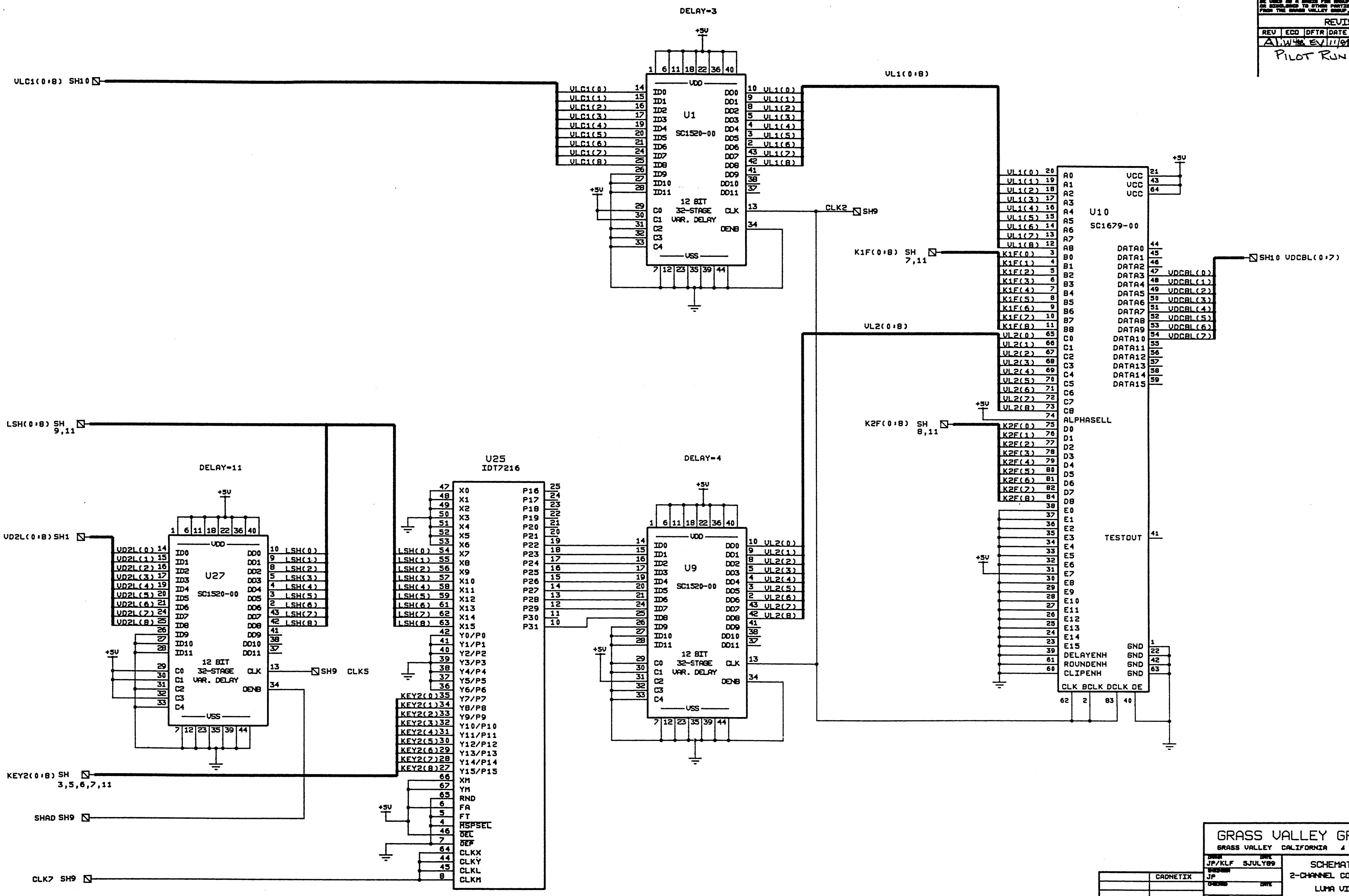
SIZE D DRAWING NO. 10-064704-00 A1
SCALE NONE SHEET 3 OF 12


DELAY=3
+5V
VLC1(0:8) SH10
U1
SC1520-00
VDD
ID0
ID1
ID2
ID3
ID4
ID5
ID6
ID7
ID8
ID9
ID10
ID11
DO0
DO1
DO2
DO3
DO4
DO5
DO6
DO7
DO8
DO9
DO10
DO11
12 BIT
32-STAGE
VAR. DELAY
C0
C1
C2
C3
C4
CLK
OENB
VSS
VLC1(0)
VLC1(1)
VLC1(2)
VLC1(3)
VLC1(4)
VLC1(5)
VLC1(6)
VLC1(7)
VLC1(8)
VL1(0:8)
VL1(0)
VL1(1)
VL1(2)
VL1(3)
VL1(4)
VL1(5)
VL1(6)
VL1(7)
VL1(8)
CLK2 SH9
U10
SC1679-00
A0
A1
A2
A3
A4
A5
A6
A7
A8
B0
B1
B2
B3
B4
B5
B6
B7
B8
C0
C1
C2
C3
C4
C5
C6
C7
C8
ALPHASELL
D0
D1
D2
D3
D4
D5
D6
D7
D8
E0
E1
E2
E3
E4
E5
E6
E7
E8
E9
E10
E11
E12
E13
E14
E15
DELAYENH
ROUNDENH
CLIPENH
CLK BCLK DCLK OE
VCC
DATA0
DATA1
DATA2
DATA3
DATA4
DATA5
DATA6
DATA7
DATA8
DATA9
DATA10
DATA11
DATA12
DATA13
DATA14
DATA15
TESTOUT
GND
K1F(0:8) SH 7,11
K1F(0)
K1F(1)
K1F(2)
K1F(3)
K1F(4)
K1F(5)
K1F(6)
K1F(7)
K1F(8)
VL2(0:8)
VL2(0)
VL2(1)
VL2(2)
VL2(3)
VL2(4)
VL2(5)
VL2(6)
VL2(7)
VL2(8)
K2F(0:8) SH 8,11
K2F(0)
K2F(1)
K2F(2)
K2F(3)
K2F(4)
K2F(5)
K2F(6)
K2F(7)
K2F(8)
SH10 VDCBL(0:7)
VDCBL(0)
VDCBL(1)
VDCBL(2)
VDCBL(3)
VDCBL(4)
VDCBL(5)
VDCBL(6)
VDCBL(7)
LSH(0:8) SH 9,11
LSH(0)
LSH(1)
LSH(2)
LSH(3)
LSH(4)
LSH(5)
LSH(6)
LSH(7)
LSH(8)
DELAY=11
VD2L(0:8) SH1
VD2L(0)
VD2L(1)
VD2L(2)
VD2L(3)
VD2L(4)
VD2L(5)
VD2L(6)
VD2L(7)
VD2L(8)
U27
SC1520-00
SH9 CLK5
U25
IDT7216
X0
X1
X2
X3
X4
X5
X6
X7
X8
X9
X10
X11
X12
X13
X14
X15
Y0/P0
Y1/P1
Y2/P2
Y3/P3
Y4/P4
Y5/P5
Y6/P6
Y7/P7
Y8/P8
Y9/P9
Y10/P10
Y11/P11
Y12/P12
Y13/P13
Y14/P14
Y15/P15
XM
YM
RND
FA
FT
MSPSEL
OEL
OEP
CLKX
CLKY
CLKL
CLKM
P16
P17
P18
P19
P20
P21
P22
P23
P24
P25
P26
P27
P28
P29
P30
P31
KEY2(0)
KEY2(1)
KEY2(2)
KEY2(3)
KEY2(4)
KEY2(5)
KEY2(6)
KEY2(7)
KEY2(8)
KEY2(0:8) SH 3,5,6,7,11
SHAD SH9
CLK7 SH9
DELAY=4
U9
SC1520-00

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REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
A	W4[illegible]	EV	11/89				—

PILOT RUN RLSE

GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA A TEKTRONIX COMPANY

	CADNETIX
DPM-100	
USED ON	NEXT ASSY
APPLICATION	
DISTRIBUTION	

DRAWN JP/KLF DATE 5JULY89
ENGINEER JP
CHECKED DATE
APPROVED DATE 11-14-89

SCHEMATIC DIAGRAM
2-CHANNEL COMBINER MEZZANINE
LUMA VIDEO OUTPUT

SIZE D DRAWING NO. 10-064704-00 A

SCALE NONE SHEET 4 OF 12

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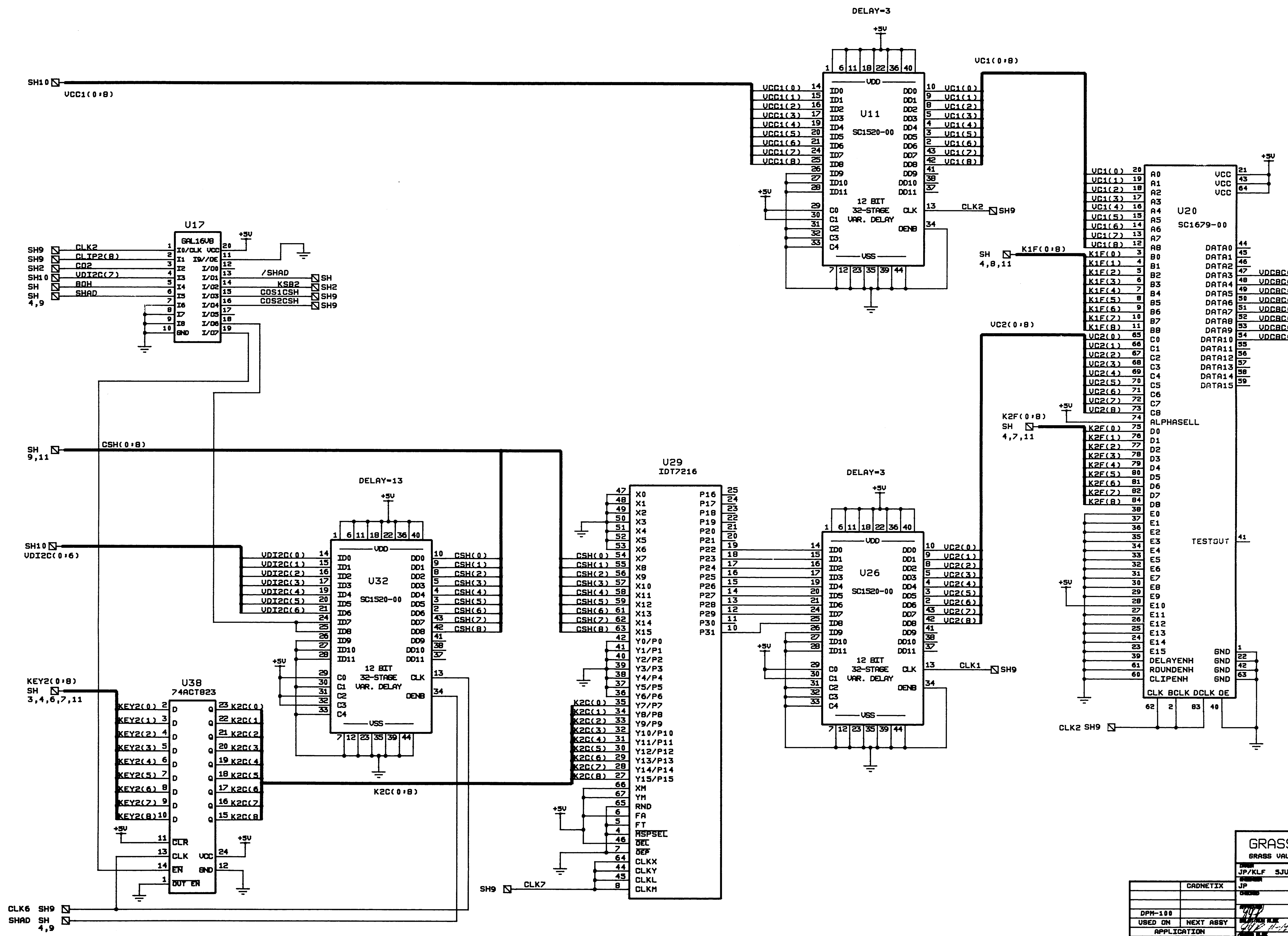
REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD.	M/F	RDC
A	W499	EV	11/89		990		—

PILOT RUN RLSE


U11
SC1520-00
12 BIT 32-STAGE VAR. DELAY
DELAY=3
VCC1(0:8)
VC1(0:8)
CLK2 SH9
U20
SC1679-00
VDCBC(0:7)
SH10
K1F(0:8)
SH 4,8,11
VC2(0:8)
K2F(0:8)
SH 4,7,11
ALPHASELL
TESTOUT
DELAYENH
ROUNDENH
CLIPENH
CLK BCLK DCLK OE
CLK2 SH9
U17
GAL16V8
CLK2
CLIP2(8)
CO2
VDI2C(7)
BOH
SHAD
/SHAD
KSB2
COS1CSH
COS2CSH
SH 9,11
CSH(0:8)
U32
SC1520-00
DELAY=13
VDI2C(0:6)
U29
IDT7216
U26
SC1520-00
DELAY=3
CLK1 SH9
KEY2(0:8)
SH 3,4,6,7,11
U38
74ACT823
K2C(0:8)
CLK7 SH9
CLK6 SH9
SHAD SH 4,9
+5V

GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA A TEKTRONIX COMPANY

DRAWN JP/KLF DATE 5JULY89
ENGINEER JP
CHECKED DATE
APPROVED 990 DATE
RELEASE 990 11-14-89

SCHEMATIC DIAGRAM
2-CHANNEL COMBINER MEZZANINE
CHROMA VIDEO OUTPUT

	CADNETIX
DPM-100	
USED ON	NEXT ASSY
APPLICATION	
DISTRIBUTION	

SIZE D DRAWING NO. 10-064704-00 A1
SCALE NONE SHEET 5 OF 12

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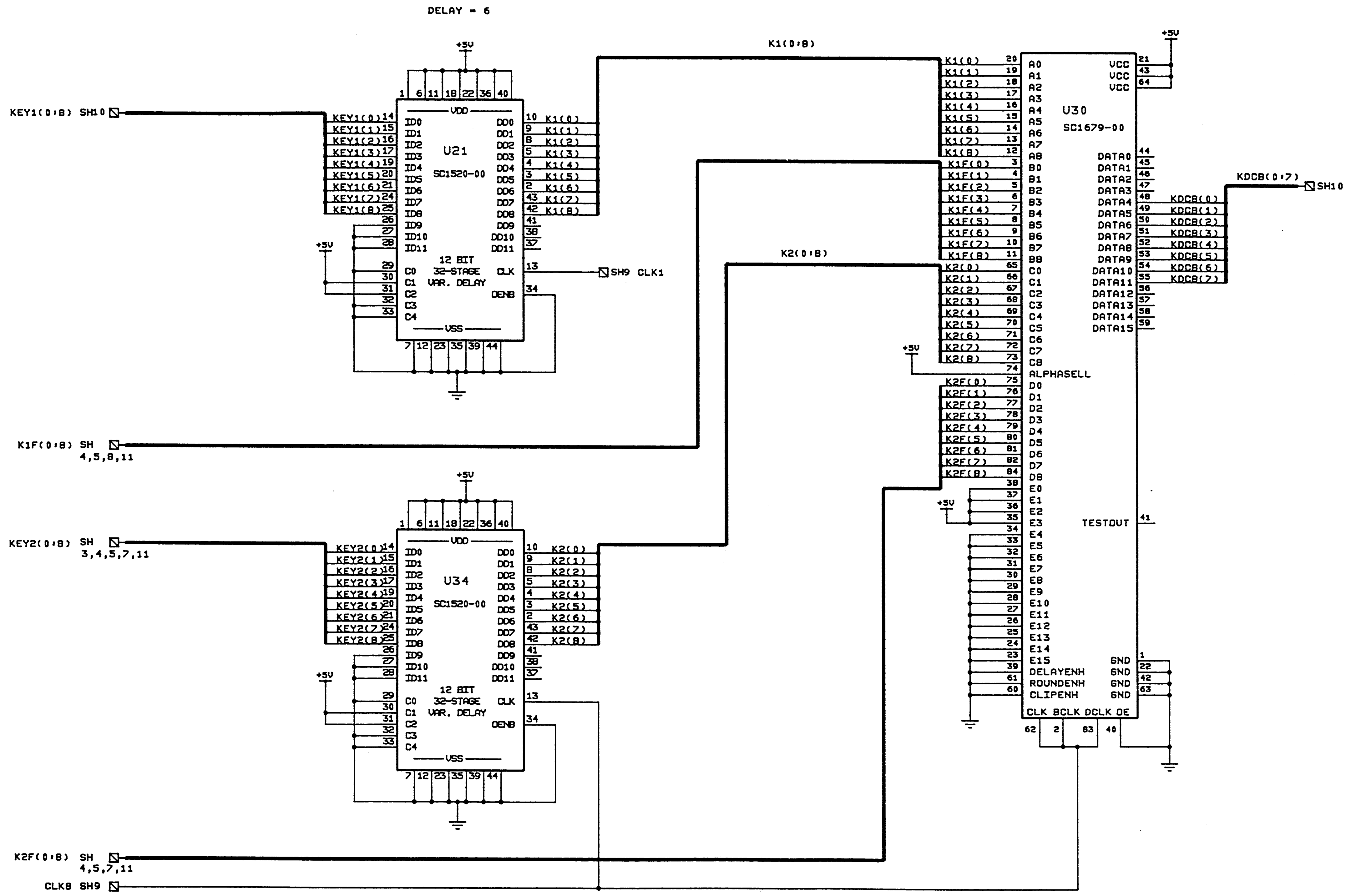
REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
A	WUS8	EV	11/8				—

PILOT RUN RLSE


DELAY = 6
+5V
U21
SC1520-00
12 BIT
32-STAGE
VAR. DELAY
VDD
VSS
ID0 ID1 ID2 ID3 ID4 ID5 ID6 ID7 ID8 ID9 ID10 ID11
C0 C1 C2 C3 C4
DD0 DD1 DD2 DD3 DD4 DD5 DD6 DD7 DD8 DD9 DD10 DD11
CLK
OENB
KEY1(0:8) SH10
KEY1(0) KEY1(1) KEY1(2) KEY1(3) KEY1(4) KEY1(5) KEY1(6) KEY1(7) KEY1(8)
K1(0) K1(1) K1(2) K1(3) K1(4) K1(5) K1(6) K1(7) K1(8)
SH9 CLK1
K1(0:8)
K1F(0:8) SH 4,5,8,11
U34
KEY2(0:8) SH 3,4,5,7,11
KEY2(0) KEY2(1) KEY2(2) KEY2(3) KEY2(4) KEY2(5) KEY2(6) KEY2(7) KEY2(8)
K2(0) K2(1) K2(2) K2(3) K2(4) K2(5) K2(6) K2(7) K2(8)
K2(0:8)
K2F(0:8) SH 4,5,7,11
CLK8 SH9
U30
SC1679-00
A0 A1 A2 A3 A4 A5 A6 A7 A8
B0 B1 B2 B3 B4 B5 B6 B7 B8
C0 C1 C2 C3 C4 C5 C6 C7 C8
ALPHASELL
D0 D1 D2 D3 D4 D5 D6 D7 D8
E0 E1 E2 E3 E4 E5 E6 E7 E8 E9 E10 E11 E12 E13 E14 E15
DELAYENH
ROUNDENH
CLIPENH
CLK BCLK DCLK OE
VCC
DATA0 DATA1 DATA2 DATA3 DATA4 DATA5 DATA6 DATA7 DATA8 DATA9 DATA10 DATA11 DATA12 DATA13 DATA14 DATA15
TESTOUT
GND
K1F(0) K1F(1) K1F(2) K1F(3) K1F(4) K1F(5) K1F(6) K1F(7) K1F(8)
K2F(0) K2F(1) K2F(2) K2F(3) K2F(4) K2F(5) K2F(6) K2F(7) K2F(8)
KDCB(0:7) SH10
KDCB(0) KDCB(1) KDCB(2) KDCB(3) KDCB(4) KDCB(5) KDCB(6) KDCB(7)

GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA A TEKTRONIX COMPANY

DRAWN	JP/KLF
DATE	5JULY89
ENGINEER	JP
CHECKED	
APPROVED	
DATE	11-14-89

SCHEMATIC DIAGRAM
2-CHANNEL COMBINER MEZZANINE
KEY OUTPUT

	CADNETIX
DPM-100	
USED ON	NEXT ASSY
APPLICATION	
DISTRIBUTION	

SIZE	DRAWING NO.	REV
D	10-064704-00	A

SCALE NONE SHEET 6 OF 12

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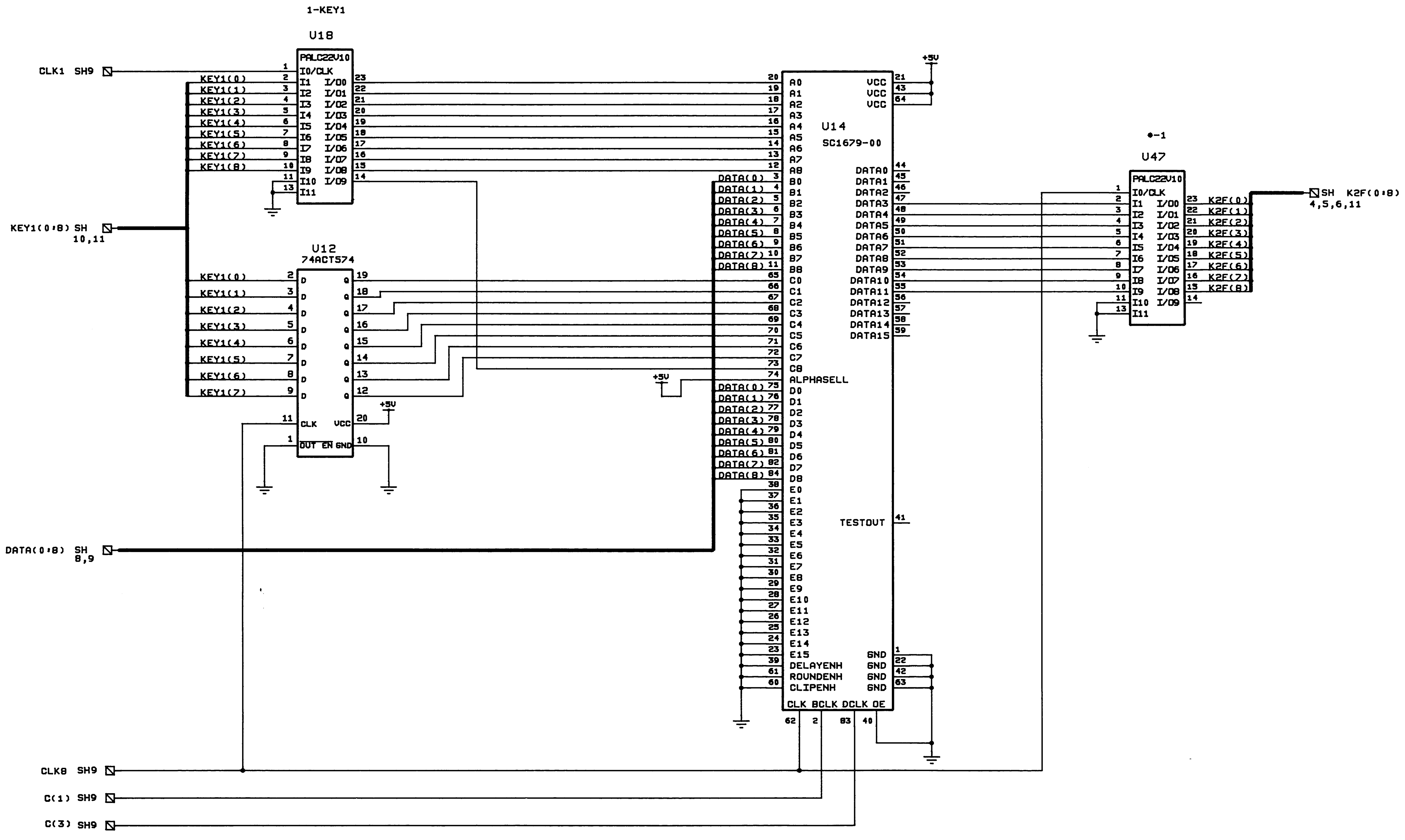
REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
A1	W438	EV-	11/89				—

PILOT RUN RLSE


1-KEY1
U18
PALC22V10
CLK1 SH9
I0/CLK
I1 I2 I3 I4 I5 I6 I7 I8 I9 I10 I11
I/O0 I/O1 I/O2 I/O3 I/O4 I/O5 I/O6 I/O7 I/O8 I/O9
KEY1(0) KEY1(1) KEY1(2) KEY1(3) KEY1(4) KEY1(5) KEY1(6) KEY1(7) KEY1(8)
KEY1(0:8) SH 10,11
U12
74ACT574
D Q
CLK VCC
OUT EN GND
+5V
U14
SC1679-00
A0 A1 A2 A3 A4 A5 A6 A7 A8
B0 B1 B2 B3 B4 B5 B6 B7 B8
C0 C1 C2 C3 C4 C5 C6 C7 C8
ALPHASELL
D0 D1 D2 D3 D4 D5 D6 D7 D8
E0 E1 E2 E3 E4 E5 E6 E7 E8 E9 E10 E11 E12 E13 E14 E15
DELAYENH
ROUNDENH
CLIPENH
CLK BCLK DCLK OE
VCC VCC VCC
GND GND GND GND
TESTOUT
DATA0 DATA1 DATA2 DATA3 DATA4 DATA5 DATA6 DATA7 DATA8 DATA9 DATA10 DATA11 DATA12 DATA13 DATA14 DATA15
DATA(0) DATA(1) DATA(2) DATA(3) DATA(4) DATA(5) DATA(6) DATA(7) DATA(8)
DATA(0:8) SH 8,9
•-1
U47
PALC22V10
K2F(0) K2F(1) K2F(2) K2F(3) K2F(4) K2F(5) K2F(6) K2F(7) K2F(8)
SH K2F(0:8) 4,5,6,11
CLK8 SH9
C(1) SH9
C(3) SH9

GRASS VALLEY GROUP

GRASS VALLEY CALIFORNIA A TEKTRONIX COMPANY

DRAWN	JP/KLF
DATE	5JULY89
ENGINEER	JP
CHECKED	
APPROVED	
PRODUCTION RLSE	11-14-89

SCHEMATIC DIAGRAM
2-CHANNEL COMBINER MEZZANINE
K2 FADE CONTROL

SIZE D DRAWING NO. 10-064704-00 A1

SCALE NONE SHEET 7 OF 12

	CADNETIX
DPM-100	
USED ON	NEXT ASSY

APPLICATION

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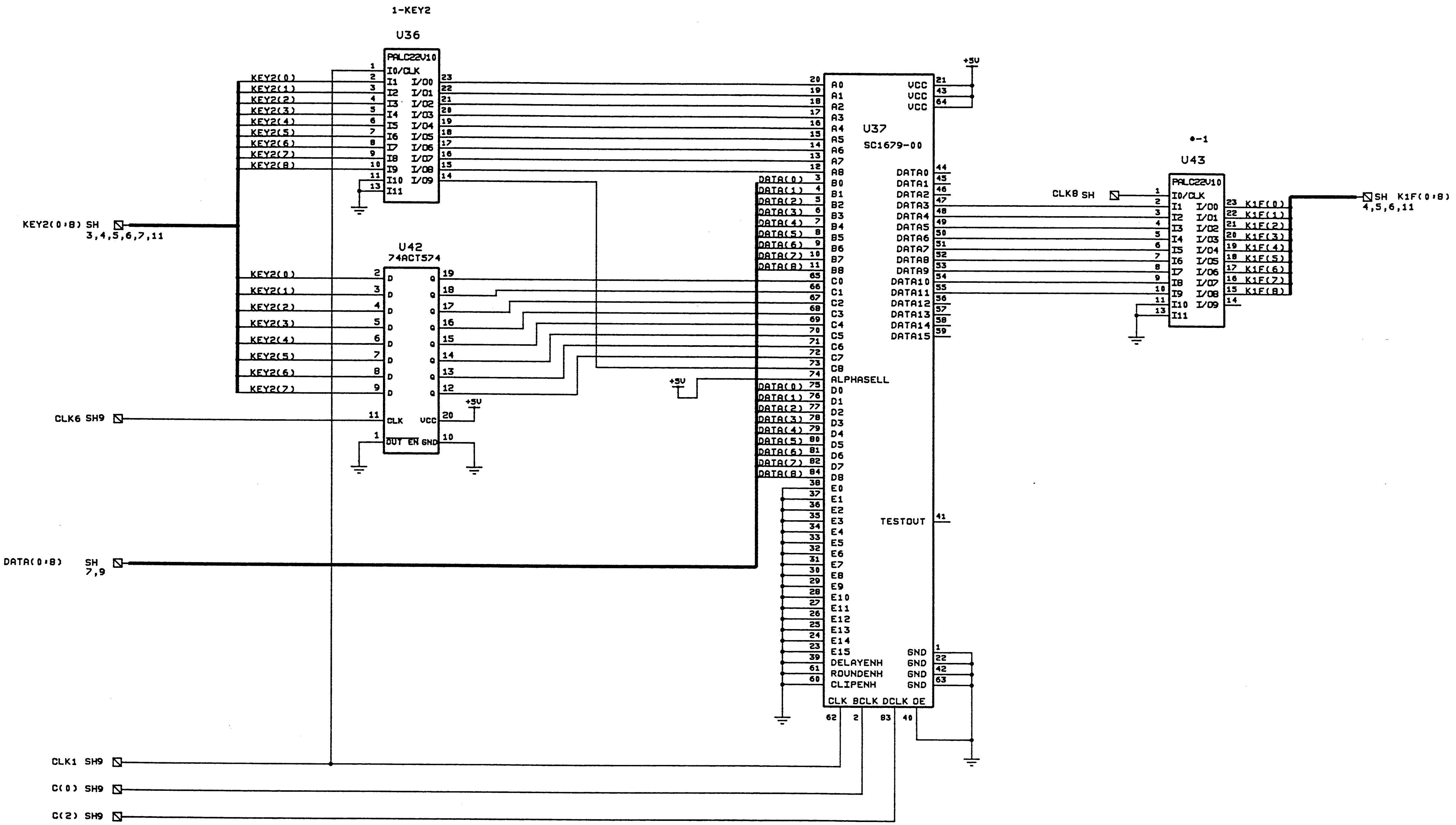
REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
A1	W2/89	EV-	11/89	-	[illegible]		—

PILOT RUN RLSE


1-KEY2
U36
PALC22V10
IO/CLK
KEY2(0)
KEY2(1)
KEY2(2)
KEY2(3)
KEY2(4)
KEY2(5)
KEY2(6)
KEY2(7)
KEY2(8)
KEY2(0:8) SH
3,4,5,6,7,11
U42
74ACT574
CLK
VCC
OUT EN
GND
+5V
CLK6 SH9
DATA(0:8) SH
7,9
CLK1 SH9
C(0) SH9
C(2) SH9
U37
SC1679-00
A0
A1
A2
A3
A4
A5
A6
A7
A8
B0
B1
B2
B3
B4
B5
B6
B7
B8
C0
C1
C2
C3
C4
C5
C6
C7
C8
ALPHASELL
D0
D1
D2
D3
D4
D5
D6
D7
D8
E0
E1
E2
E3
E4
E5
E6
E7
E8
E9
E10
E11
E12
E13
E14
E15
DELAYENH
ROUNDENH
CLIPENH
CLK
BCLK
DCLK
OE
VCC
DATA0
DATA1
DATA2
DATA3
DATA4
DATA5
DATA6
DATA7
DATA8
DATA9
DATA10
DATA11
DATA12
DATA13
DATA14
DATA15
TESTOUT
GND
•-1
U43
PALC22V10
CLK8 SH
K1F(0)
K1F(1)
K1F(2)
K1F(3)
K1F(4)
K1F(5)
K1F(6)
K1F(7)
K1F(8)
SH K1F(0:8)
4,5,6,11

GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA A TEKTRONIX COMPANY

	CADNETIX
DPM-100	
USED ON	NEXT ASSY
APPLICATION	
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JP/KLF 5JULY89
JP
11-14-89

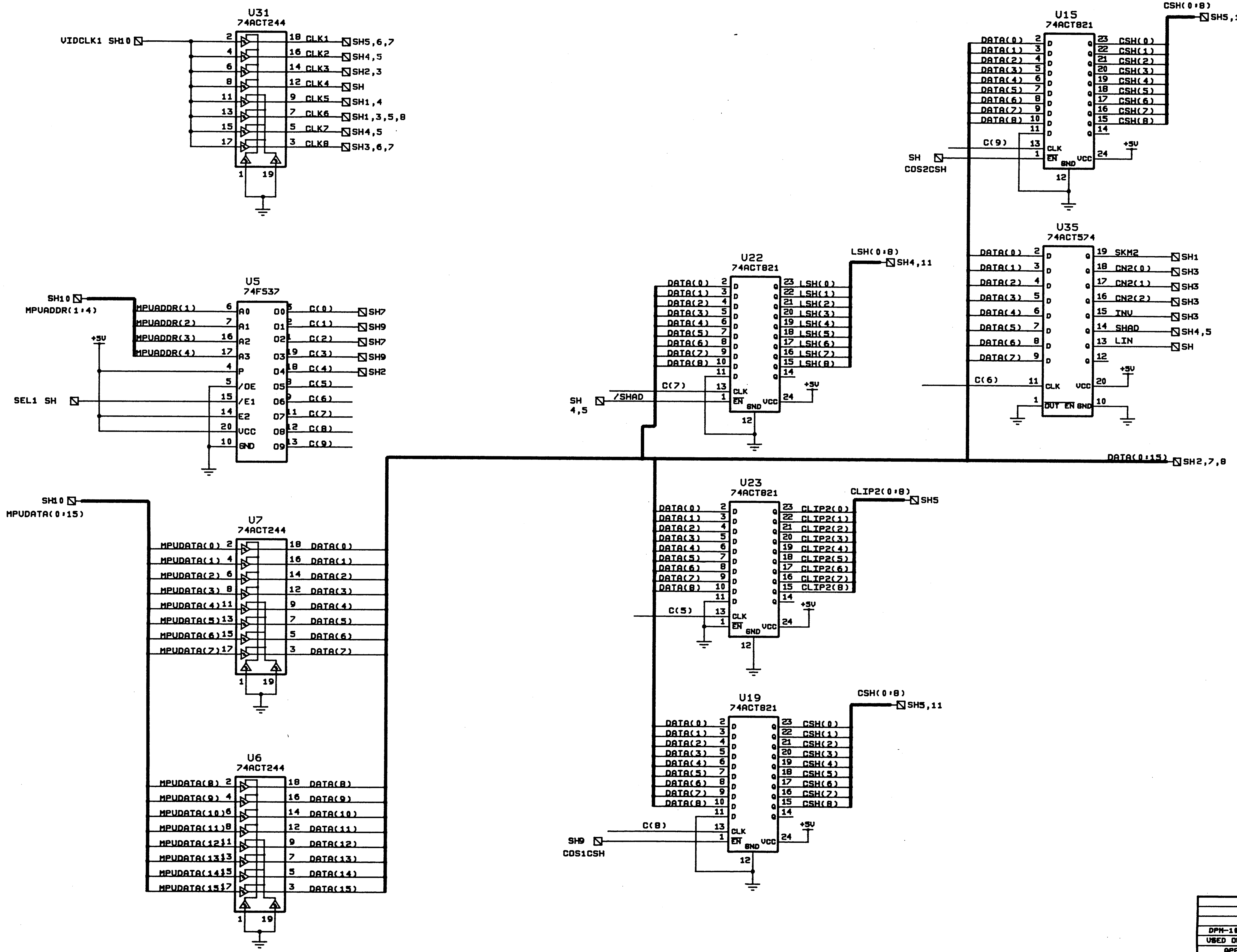
SCHEMATIC DIAGRAM
2-CHANNEL COMBINER MEZZANINE
K1 FADE CONTROL

D 10-064704-00 A1
NONE
SHEET 8 OF 12

REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
A1	N48.EV	11/89	-	[illegible]		—	

PILOT RUN RLSE



U31
74ACT244
VIDCLK1 SH10
CLK1 SH5,6,7
CLK2 SH4,5
CLK3 SH2,3
CLK4 SH
CLK5 SH1,4
CLK6 SH1,3,5,8
CLK7 SH4,5
CLK8 SH3,6,7
U5
74F537
SH10
MPUADDR(1:4)
MPUADDR(1)
MPUADDR(2)
MPUADDR(3)
MPUADDR(4)
A0 A1 A2 A3 P /OE /E1 E2 VCC GND
O0 O1 O2 O3 O4 O5 O6 O7 O8 O9
+5V
SEL1 SH
C(0) SH7
C(1) SH9
C(2) SH7
C(3) SH9
C(4) SH2
C(5)
C(6)
C(7)
C(8)
C(9)
SH10
MPUDATA(0:15)
U7
74ACT244
MPUDATA(0) … MPUDATA(7)
DATA(0) … DATA(7)
U6
74ACT244
MPUDATA(8) … MPUDATA(15)
DATA(8) … DATA(15)
U22
74ACT821
DATA(0) … DATA(8)
LSH(0) … LSH(8)
LSH(0:8) SH4,11
C(7)
SH 4,5 /SHAD
CLK EN GND VCC
+5V
U23
74ACT821
DATA(0) … DATA(8)
CLIP2(0) … CLIP2(8)
CLIP2(0:8) SH5
C(5)
U19
74ACT821
DATA(0) … DATA(8)
CSH(0) … CSH(8)
CSH(0:8) SH5,11
C(8)
SH9 COS1CSH
U15
74ACT821
DATA(0) … DATA(8)
CSH(0) … CSH(8)
CSH(0:8) SH5,11
C(9)
SH COS2CSH
U35
74ACT574
DATA(0) … DATA(7)
SKM2 SH1
CN2(0) SH3
CN2(1) SH3
CN2(2) SH3
INV SH3
SHAD SH4,5
LIN SH
C(6)
CLK VCC OUT EN GND
DATA(0:15) SH2,7,8

GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA A TEKTRONIX COMPANY

JP/KLF 5JULY89
JP

SCHEMATIC DIAGRAM
2-CHANNEL COMBINER MEZZANINE
CONTROL SIGNALS

	CADNETIX
DPM-100	
USED ON	NEXT ASSY
APPLICATION	
DISTRIBUTION	

D 10-064704-00 A1

NONE SHEET 9 OF 12

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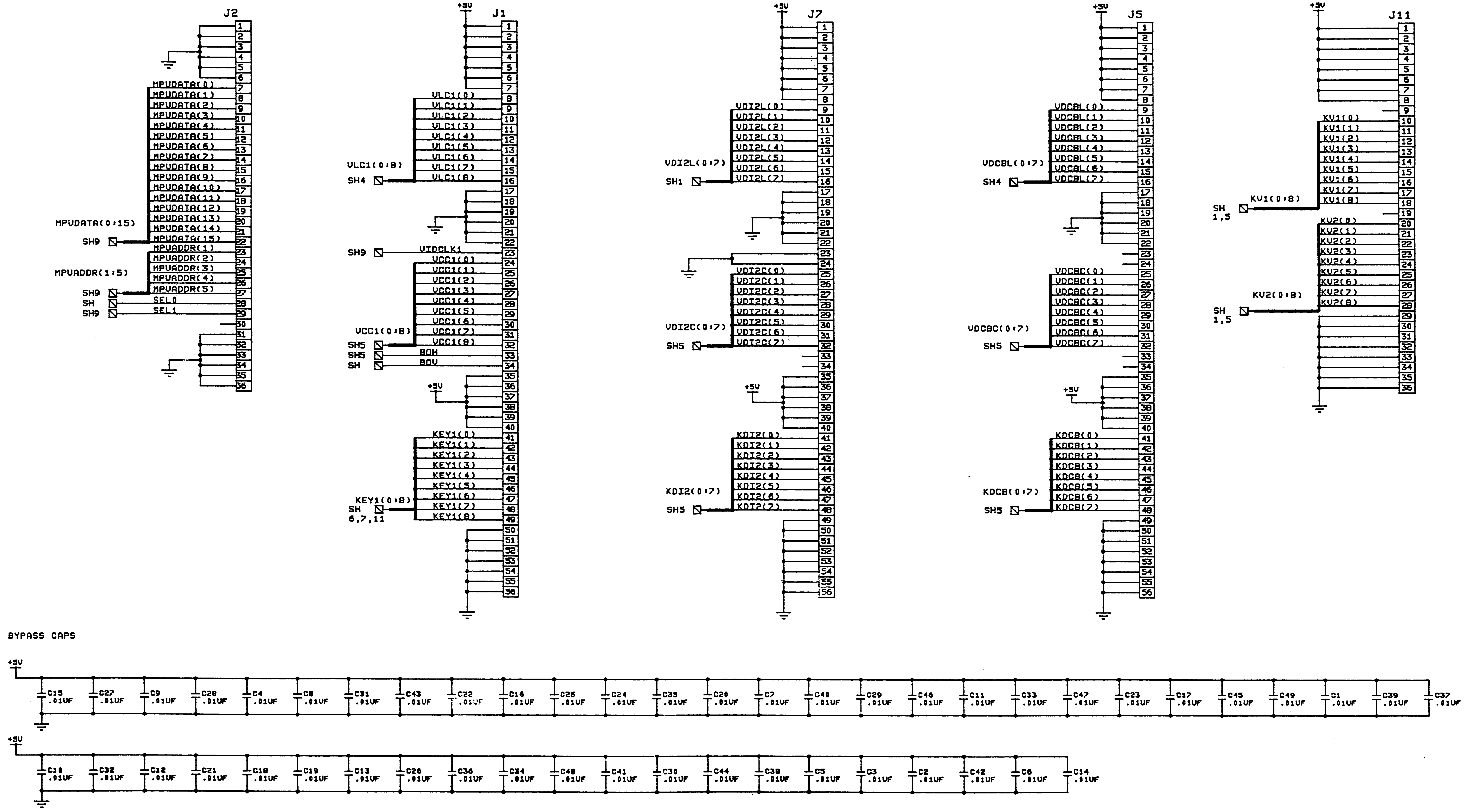
REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
A1	W4??	EV	-11				—

PILOT RUN RLSE


J2
MPUDATA(0:15)
MPUDATA(0)
MPUDATA(1)
MPUDATA(2)
MPUDATA(3)
MPUDATA(4)
MPUDATA(5)
MPUDATA(6)
MPUDATA(7)
MPUDATA(8)
MPUDATA(9)
MPUDATA(10)
MPUDATA(11)
MPUDATA(12)
MPUDATA(13)
MPUDATA(14)
MPUDATA(15)
MPUADDR(1:5)
MPUADDR(1)
MPUADDR(2)
MPUADDR(3)
MPUADDR(4)
MPUADDR(5)
SEL0
SEL1
SH9
SH
J1
+5V
VLC1(0:8)
VLC1(0)
VLC1(8)
SH4
VIDCLK1
VCC1(0:8)
VCC1(0)
VCC1(8)
SH5
BDH
BDV
KEY1(0:8)
KEY1(0)
KEY1(8)
SH 6,7,11
J7
VDI2L(0:7)
SH1
VDI2C(0:7)
KDI2(0:7)
J5
VDCBL(0:7)
VDCBC(0:7)
KDCB(0:7)
J11
KV1(0:8)
KV2(0:8)
SH 1,5
BYPASS CAPS
C15 C27 C9 C20 C4 C8 C31 C43 C22 C16 C25 C24 C35 C28 C7 C40 C29 C46 C11 C33 C47 C23 C17 C45 C49 C1 C39 C37
C18 C32 C12 C21 C10 C19 C13 C26 C36 C34 C48 C41 C30 C44 C38 C5 C3 C2 C42 C6 C14
.01UF

GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA A TEKTRONIX COMPANY

DRAWN JP/KLF DATE 5JULY89
ENGINEER JP

SCHEMATIC DIAGRAM
2-CHANNEL COMBINER MEZZANINE
CONNECTORS

CADNETIX
DPM-100
USED ON NEXT ASSY
APPLICATION
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PILOT RUN RLSE 8-14-89

SIZE D DRAWING NO. 10-064704-00 A1
SCALE NONE SHEET 10 OF 12

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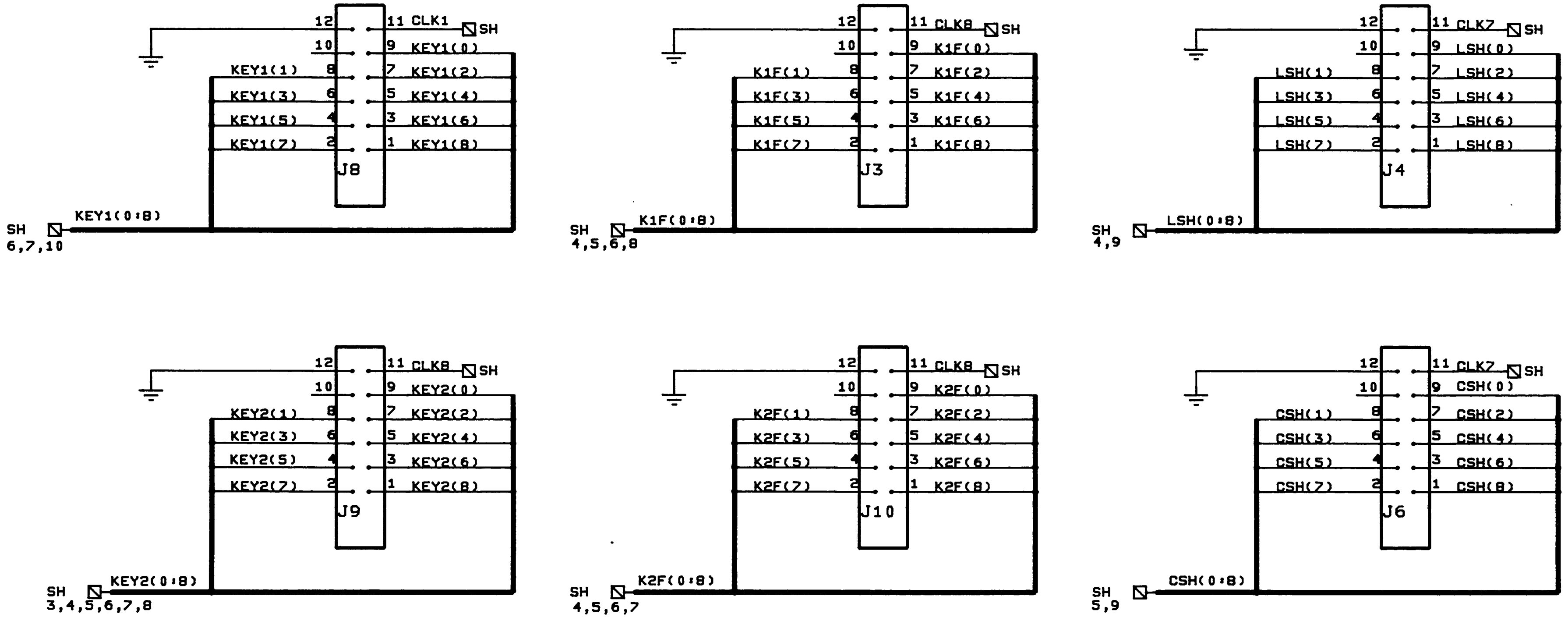
REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
A1	W1684	EV	11/89	-			—

PILOT RUN RLSE


12
11 CLK1
SH
10
9 KEY1(0)
KEY1(1) 8
7 KEY1(2)
KEY1(3) 6
5 KEY1(4)
KEY1(5) 4
3 KEY1(6)
KEY1(7) 2
1 KEY1(8)
J8
SH 6,7,10
KEY1(0:8)
12
11 CLK8
SH
10
9 K1F(0)
K1F(1) 8
7 K1F(2)
K1F(3) 6
5 K1F(4)
K1F(5) 4
3 K1F(6)
K1F(7) 2
1 K1F(8)
J3
SH 4,5,6,8
K1F(0:8)
12
11 CLK7
SH
10
9 LSH(0)
LSH(1) 8
7 LSH(2)
LSH(3) 6
5 LSH(4)
LSH(5) 4
3 LSH(6)
LSH(7) 2
1 LSH(8)
J4
SH 4,9
LSH(0:8)
12
11 CLK8
SH
10
9 KEY2(0)
KEY2(1) 8
7 KEY2(2)
KEY2(3) 6
5 KEY2(4)
KEY2(5) 4
3 KEY2(6)
KEY2(7) 2
1 KEY2(8)
J9
SH 3,4,5,6,7,8
KEY2(0:8)
12
11 CLK8
SH
10
9 K2F(0)
K2F(1) 8
7 K2F(2)
K2F(3) 6
5 K2F(4)
K2F(5) 4
3 K2F(6)
K2F(7) 2
1 K2F(8)
J10
SH 4,5,6,7
K2F(0:8)
12
11 CLK7
SH
10
9 CSH(0)
CSH(1) 8
7 CSH(2)
CSH(3) 6
5 CSH(4)
CSH(5) 4
3 CSH(6)
CSH(7) 2
1 CSH(8)
J6
SH 5,9
CSH(0:8)

TEST HEADERS

	CADNETIX
DPM-100	
USED ON	NEXT ASSY
APPLICATION	
DISTRIBUTION	

GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA A TEKTRONIX COMPANY

DRAWN JP/KLF DATE 5JULY89
ENGINEER JP
CHECKED DATE
APPROVED DATE
PRODUCTION RLSE DATE 11-14-89
ENGRG RLSE DATE

SCHEMATIC DIAGRAM
2-CHANNEL COMBINER MEZZANINE
TEST HEADERS

SIZE D DRAWING NO. 10-064704-00 A1
SCALE: NONE SHEET 11 OF 12

D | 10-064704-00 | A1 | 12

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REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
A1	W4889	EV	11/89		JP		—

PILOT RUN RLSE

Net name to page:

+5V	1,2,3,4,5,6,7,8,9,10			/SHAD	5,9	BOH	5,10
BOV	10	C(0)	8,9	C(1)	7,9	C(2)	8,9
C(3)	7,9	C(4)	2,9	C(5)	9	C(6)	9
C(7)	9	C(8)	9	C(9)	9	CLIP2(0)	2,9
CLIP2(1)	2,9	CLIP2(2)	2,9	CLIP2(3)	2,9	CLIP2(4)	2,9
CLIP2(5)	2,9	CLIP2(6)	2,9	CLIP2(7)	2,9	CLIP2(8)	5,9
CLK1	5,6,7,8,9,11	CLK2	4,5,9	CLK3	2,3,9	CLK4	9
CLK5	1,4,9	CLK6	1,3,5,8,9	CLK7	4,5,9,11		
CLK8	3,6,7,8,9,11	CN2(0)	3,9	CN2(1)	3,9	CN2(2)	3,9
CO2	2,5	COS1CSH	5,9	COS2CSH	5,9	CSH(0)	5,9,11
CSH(1)	5,9,11	CSH(2)	5,9,11	CSH(3)	5,9,11	CSH(4)	5,9,11
CSH(5)	5,9,11	CSH(6)	5,9,11	CSH(7)	5,9,11	CSH(8)	5,9,11
DATA(0)	2,7,8,9	DATA(1)	2,7,8,9	DATA(10)	2,9	DATA(11)	2,9
DATA(12)	2,9	DATA(13)	2,9	DATA(14)	2,9	DATA(15)	2,9
DATA(2)	2,7,8,9	DATA(3)	2,7,8,9	DATA(4)	2,7,8,9	DATA(5)	2,7,8,9
DATA(6)	2,7,8,9	DATA(7)	2,7,8,9	DATA(8)	2,7,8,9	DATA(9)	2,9
GND	1,2,3,4,5,6,7,8,9,10,11			INV	3,9	K1(0)	6
K1(1)	6	K1(2)	6	K1(3)	6	K1(4)	6
K1(5)	6	K1(6)	6	K1(7)	6	K1(8)	6
K1F(0)	4,5,6,8,11	K1F(1)	4,5,6,8,11	K1F(2)	4,5,6,8,11	K1F(3)	4,5,6,8,11
K1F(4)	4,5,6,8,11	K1F(5)	4,5,6,8,11	K1F(6)	4,5,6,8,11	K1F(7)	4,5,6,8,11
K1F(8)	4,5,6,8,11	K2(0)	6	K2(1)	6	K2(2)	6
K2(3)	6	K2(4)	6	K2(5)	6	K2(6)	6
K2(7)	6	K2(8)	6	K2C(0)	5	K2C(1)	5
K2C(2)	5	K2C(3)	5	K2C(4)	5	K2C(5)	5
K2C(6)	5	K2C(7)	5	K2C(8)	5	K2F(0)	4,5,6,7,11
K2F(1)	4,5,6,7,11	K2F(2)	4,5,6,7,11	K2F(3)	4,5,6,7,11	K2F(4)	4,5,6,7,11
K2F(5)	4,5,6,7,11	K2F(6)	4,5,6,7,11	K2F(7)	4,5,6,7,11	K2F(8)	4,5,6,7,11
K2N(0)	3	K2N(1)	3	K2N(2)	3	K2N(3)	3
K2N(4)	3	K2N(5)	3	K2N(6)	3	K2N(7)	3
KC2(0)	2,3	KC2(1)	2,3	KC2(10)	2,3	KC2(11)	2,3
KC2(12)	2,3	KC2(13)	2,3	KC2(14)	2,3	KC2(15)	2,3
KC2(2)	2,3	KC2(3)	2,3	KC2(4)	2,3	KC2(5)	2,3
KC2(6)	2,3	KC2(7)	2,3	KC2(8)	2,3	KC2(9)	2,3
KDCB(0)	6,10	KDCB(1)	6,10	KDCB(2)	6,10	KDCB(3)	6,10
KDCB(4)	6,10	KDCB(5)	6,10	KDCB(6)	6,10	KDCB(7)	6,10
KDD2(0)	1,3	KDD2(1)	1,3	KDD2(2)	1,3	KDD2(3)	1,3
KDD2(4)	1,3	KDD2(5)	1,3	KDD2(6)	1,3	KDD2(7)	1,3
KDI2(0)	1,10	KDI2(1)	1,10	KDI2(2)	1,10	KDI2(3)	1,10
KDI2(4)	1,10	KDI2(5)	1,10	KDI2(6)	1,10	KDI2(7)	1,10
KEY1(0)	6,7,10,11	KEY1(1)	6,7,10,11	KEY1(2)	6,7,10,11	KEY1(3)	6,7,10,11
KEY1(4)	6,7,10,11	KEY1(5)	6,7,10,11	KEY1(6)	6,7,10,11	KEY1(7)	6,7,10,11
KEY1(8)	6,7,10,11	KEY2(0)	3,4,5,6,8,11	KEY2(1)	3,4,5,6,8,11		
KEY2(2)	3,4,5,6,8,11	KEY2(3)	3,4,5,6,8,11	KEY2(4)	3,4,5,6,8,11		
KEY2(5)	3,4,5,6,8,11	KEY2(6)	3,4,5,6,8,11	KEY2(7)	3,4,5,6,8,11		
KEY2(8)	3,4,5,6,8,11	KS2(0)	3	KS2(1)	3	KS2(2)	3
KS2(3)	3	KS2(4)	3	KS2(5)	3	KS2(6)	3
KS2(7)	3	KSB2	2,5	KV1(0)	1,10	KV1(1)	1,10
KV1(2)	1,10	KV1(3)	1,10	KV1(4)	1,10	KV1(5)	1,10
KV1(6)	1,10	KV1(7)	1,10	KV1(8)	10	KV2(0)	1,10
KV2(1)	1,10	KV2(2)	1,10	KV2(3)	1,10	KV2(4)	1,10
KV2(5)	1,10	KV2(6)	1,10	KV2(7)	1,10	KV2(8)	10
KV2M(0)	1,2	KV2M(1)	1,2	KV2M(2)	1,2	KV2M(3)	1,2
KV2M(4)	1,2	KV2M(5)	1,2	KV2M(6)	1,2	KV2M(7)	1,2
LIN	3,9	LSH(0)	4,9,11	LSH(1)	4,9,11	LSH(2)	4,9,11
LSH(3)	4,9,11	LSH(4)	4,9,11	LSH(5)	4,9,11	LSH(6)	4,9,11
LSH(7)	4,9,11	LSH(8)	4,9,11	MPUADDR(1)	9,10	MPUADDR(2)	9,10
MPUADDR(3)	9,10	MPUADDR(4)	9,10	MPUADDR(5)	10	MPUDATA(0)	9,10
MPUDATA(1)	9,10	MPUDATA(10)	9,10	MPUDATA(11)	9,10	MPUDATA(12)	9,10
MPUDATA(13)	9,10	MPUDATA(14)	9,10	MPUDATA(15)	9,10	MPUDATA(2)	9,10
MPUDATA(3)	9,10	MPUDATA(4)	9,10	MPUDATA(5)	9,10	MPUDATA(6)	9,10
MPUDATA(7)	9,10	MPUDATA(8)	9,10	MPUDATA(9)	9,10	SEL0	10
SEL1	9,10	SHAD	4,5,9	SKM2	1,9	VC1(0)	5
VC1(1)	5	VC1(2)	5	VC1(3)	5	VC1(4)	5
VC1(5)	5	VC1(6)	5	VC1(7)	5	VC1(8)	5
VC2(0)	5	VC2(1)	5	VC2(2)	5	VC2(3)	5
VC2(4)	5	VC2(5)	5	VC2(6)	5	VC2(7)	5
VC2(8)	5	VCC1(0)	5,10	VCC1(1)	5,10	VCC1(2)	5,10
VCC1(3)	5,10	VCC1(4)	5,10	VCC1(5)	5,10	VCC1(6)	5,10
VCC1(7)	5,10	VCC1(8)	5,10	VD2L(0)	1,4	VD2L(1)	1,4
VD2L(2)	1,4	VD2L(3)	1,4	VD2L(4)	1,4	VD2L(5)	1,4
VD2L(6)	1,4	VD2L(7)	1,4	VD2L(8)	1,4	VDCBC(0)	5,10
VDCBC(1)	5,10	VDCBC(2)	5,10	VDCBC(3)	5,10	VDCBC(4)	5,10
VDCBC(5)	5,10	VDCBC(6)	5,10	VDCBC(7)	5,10	VDCBL(0)	4,10
VDCBL(1)	4,10	VDCBL(2)	4,10	VDCBL(3)	4,10	VDCBL(4)	4,10
VDCBL(5)	4,10	VDCBL(6)	4,10	VDCBL(7)	4,10	VDI2C(0)	5,10
VDI2C(1)	5,10	VDI2C(2)	5,10	VDI2C(3)	5,10	VDI2C(4)	5,10
VDI2C(5)	5,10	VDI2C(6)	5,10	VDI2C(7)	5,10	VDI2L(0)	1,10
VDI2L(1)	1,10	VDI2L(2)	1,10	VDI2L(3)	1,10	VDI2L(4)	1,10
VDI2L(5)	1,10	VDI2L(6)	1,10	VDI2L(7)	1,10	VIDCLK1	9,10
VL1(0)	4	VL1(1)	4	VL1(2)	4	VL1(3)	4
VL1(4)	4	VL1(5)	4	VL1(6)	4	VL1(7)	4
VL1(8)	4	VL2(0)	4	VL2(1)	4	VL2(2)	4
VL2(3)	4	VL2(4)	4	VL2(5)	4	VL2(6)	4
VL2(7)	4	VL2(8)	4	VLC1(0)	4,10	VLC1(1)	4,10
VLC1(2)	4,10	VLC1(3)	4,10	VLC1(4)	4,10	VLC1(5)	4,10
VLC1(6)	4,10	VLC1(7)	4,10	VLC1(8)	4,10		

Reference Designator to page:

C1	10	C2	10	C3	10	C4	10	C5	10	C6	10	C7	10
C8	10	C9	10	C10	10	C11	10	C12	10	C13	10	C14	10
C15	10	C16	10	C17	10	C18	10	C19	10	C20	10	C21	10
C22	10	C23	10	C24	10	C25	10	C26	10	C27	10	C28	10
C29	10	C30	10	C31	10	C32	10	C33	10	C34	10	C35	10
C36	10	C37	10	C38	10	C39	10	C40	10	C41	10	C42	10
C43	10	C44	10	C45	10	C46	10	C47	10	C48	10	C49	10
J1	10	J2	10	J3	11	J4	11	J5	10	J6	11	J7	10
J8	11	J9	11	J10	11	J11	10	U1	4	U2	2	U5	9
U6	9	U7	9	U8	2	U9	4	U10	4	U11	5	U12	7
U13	3	U14	7	U15	9	U16	2	U18	7	U19	9	U20	5
U21	6	U22	9	U23	9	U24	2	U25	4	U26	5	U27	4
U28	1	U29	5	U30	6	U31	9	U32	5	U33	1	U34	6
U35	9	U36	8	U37	8	U38	5	U39	1	U40	2	U42	8
U43	8	U44	1	U45	1	U47	7	U48	5	U49	3	U50	3
U51	3	U52	3										

	CADNETIX
DPM-100	
USED ON	NEXT ASSY
APPLICATION	
DISTRIBUTION	

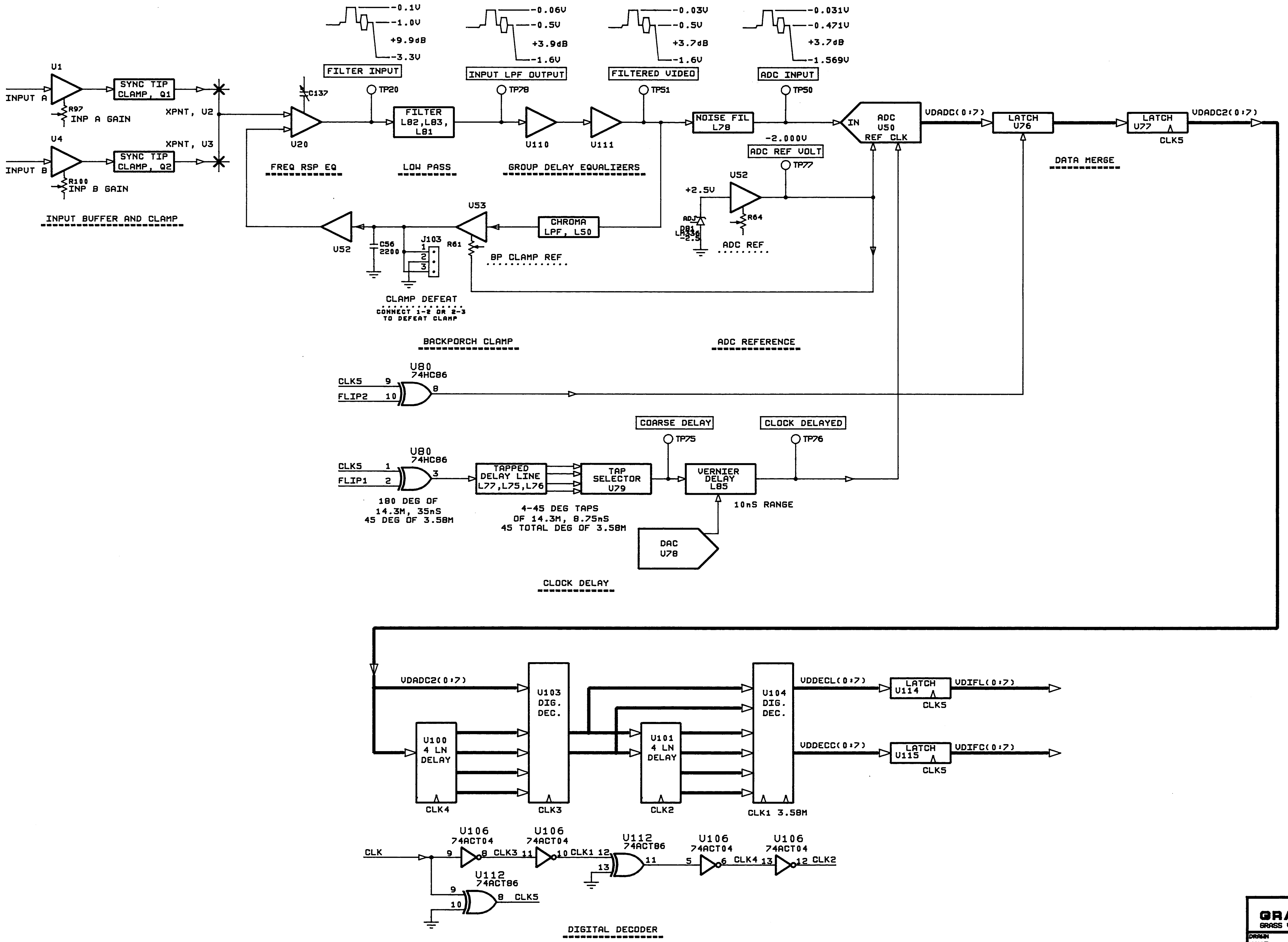
GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA A TEKTRONIX COMPANY

DRAWN JP/KLF DATE 5JULY89
ENGINEER JP
CHECKED DATE
APPROVED DATE
PILOT RUN RLSE DATE
RELEASE DATE

SCHEMATIC DIAGRAM
2-CHANNEL COMBINER MEZZANINE
CROSS REFERENCE

SIZE D DRAWING NO. 10-064704-00

SCALE: NONE SHEET 12 OF 12


-0.1V
-1.0V
+9.9dB
-3.3V
FILTER INPUT
-0.06V
-0.5V
+3.9dB
-1.6V
INPUT LPF OUTPUT
-0.03V
-0.5V
+3.7dB
-1.6V
FILTERED VIDEO
-0.031V
-0.471V
+3.7dB
-1.569V
ADC INPUT
U1
INPUT A
R97
INP A GAIN
SYNC TIP CLAMP, Q1
XPNT, U2
U4
INPUT B
R100
INP B GAIN
SYNC TIP CLAMP, Q2
XPNT, U3
INPUT BUFFER AND CLAMP
C137
TP20
U20
FREQ RSP EQ
FILTER L82,L83, L81
LOW PASS
TP78
U110
U111
GROUP DELAY EQUALIZERS
TP51
NOISE FIL L78
TP50
-2.000V
ADC REF VOLT
TP77
IN
ADC U50
REF CLK
VDADC(0:7)
LATCH U76
LATCH U77
CLK5
VDADC2(0:7)
DATA MERGE
+2.5V
U52
ADJ
D81 LM336 -2.5
R64
ADC REF
U53
CHROMA LPF, L50
U52
C56 2200
J103
1
2
3
R61
BP CLAMP REF
CLAMP DEFEAT
CONNECT 1-2 OR 2-3 TO DEFEAT CLAMP
BACKPORCH CLAMP
ADC REFERENCE
U80 74HC86
CLK5 9
FLIP2 10
8
COARSE DELAY
TP75
CLOCK DELAYED
TP76
U80 74HC86
CLK5 1
FLIP1 2
3
TAPPED DELAY LINE L77,L75,L76
TAP SELECTOR U79
VERNIER DELAY L85
10nS RANGE
180 DEG OF 14.3M, 35nS 45 DEG OF 3.58M
4-45 DEG TAPS OF 14.3M, 8.75nS 45 TOTAL DEG OF 3.58M
DAC U78
CLOCK DELAY
VDADC2(0:7)
U100 4 LN DELAY
CLK4
U103 DIG. DEC.
CLK3
U101 4 LN DELAY
CLK2
U104 DIG. DEC.
CLK1 3.58M
VDDECL(0:7)
LATCH U114
CLK5
VDIFL(0:7)
VDDECC(0:7)
LATCH U115
CLK5
VDIFC(0:7)
CLK
U106 74ACT04
9
8 CLK3
U106 74ACT04
11
10 CLK1
U112 74ACT86
12
13
11
U106 74ACT04
5
6 CLK4
U106 74ACT04
13
12 CLK2
U112 74ACT86
9
10
8 CLK5
DIGITAL DECODER

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REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
A1	W711	—	—	—	—		—
PILOT RUN RELEASE. NEW PCB.							
B1	W715	CDP	5/90	—	—		—
ISSUE UPDATE							
C1	W731	CDP	5/90	—	—		—
ISSUE UPDATE							
D1	W796	CDP	5/90	—	—		—
ISSUE UPDATE							
E1	W643	CDP	5/90	—	—	6.90	—
ISSUE UPDATE							

GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA A TEKTRONIX COMPANY

	CADNETIX	DRAWN MMB DATE 1/90	BLOCK DIAGRAM ANALOG ACQUISITION NTSC ANALOG
		ENGINEER	
		CHECKED DATE	
DPM-100		APPROVED DATE	SIZE D DRAWING NO. 00-064705-01 REV E1
USED ON	NEXT ASSY	PILOT RUN RLSE MMB DATE 1/90	
APPLICATION		ENGRG RLSE DATE	SCALE: NONE SHEET 1 OF 1
DISTRIBUTION			

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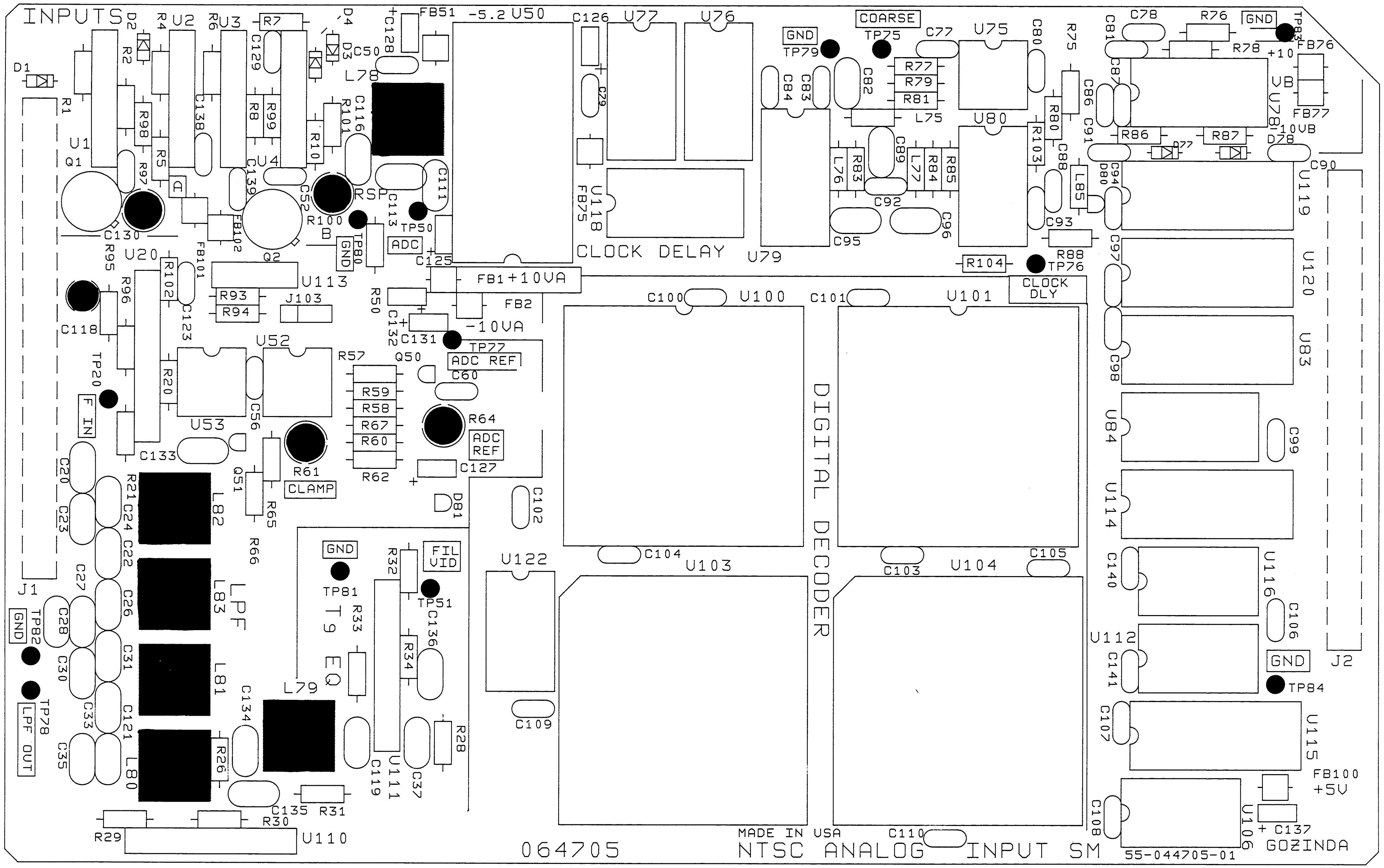
REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
A1	W711	EV	12-90	——			——
PILOT RUN RELEASE							
B1	W715	CDP	5/90	——			——
ISSUE UPDATE							
C1	W731	CDP	5/90	——			——
ISSUE UPDATE							
D1	W796	CDP	5/90	——			——
ADD R92							
E1	W643	CDP	5/90	——			——
ISSUE UPDATE							


INPUTS
D1
D2
R4
U2
R6
U3
R7
D4
D3
C50
C128
FB51
-5.2
U50
C126
U77
U76
GND
TP79
COARSE
TP75
C77
U75
C80
R75
C81
C78
R76
GND
TP83
FB76
R78
+10
R1
R2
R98
C138
R8
R99
R10
R101
C129
L78
C29
C84
C83
C82
R77
R79
R81
L75
U80
R80
C86
C87
VB
U78
FB77
-10VB
U1
Q1
R5
R97
U4
C139
C52
C116
RSP
R100
B
TP80
GND
C113
TP50
ADC
C111
FB75
U118
CLOCK DELAY
U79
L76
R83
C89
L77
R84
R85
C92
C95
C96
R103
C88
L85
C93
C91
R86
D77
R87
D78
C90
C94
D80
U119
C130
R95
U20
R102
FB101
FB102
Q2
U113
C125
FB1 +10VA
FB2
R104
R88
TP76
CLOCK DLY
C97
U120
C118
R96
C123
R93
R94
J103
R50
C132
C131
-10VA
TP77
ADC REF
C100
U100
C101
U101
U83
TP20
R20
U52
U53
C56
R57
Q50
R59
R58
R67
R60
R62
C60
R64
ADC REF
C127
C98
U84
C99
F IN
C133
Q51
R61
CLAMP
R65
R66
D81
C102
DIGITAL DECODER
U114
C20
C23
R21
C24
C22
L82
C27
C28
C26
L83
LPF
GND
TP81
T9
R33
EQ
R32
FIL VID
TP51
C136
R34
U122
C104
U103
C103
U104
C105
C140
U116
C106
U112
C141
GND
TP84
J1
J2
GND
TP82
C30
C31
L81
TP78
LPF OUT
C33
C121
C35
L80
R26
C134
L79
C135
R31
C119
U111
C37
R28
C109
C107
U115
FB100
+5V
C108
U106
C137
R29
R30
U110
064705
MADE IN USA
C110
NTSC ANALOG INPUT SM
55-044705-01
GOZINDA

NOTES:

1. SCHEMATIC REFERENCE: D10-064705-01.
2. DARKENED COMPONENTS INDICATE TEST POINTS AND ADJUSTABLE COMPONENTS.
3. REFER TO SCHEMATIC FOR EDGE CONNECTOR PIN OUT INFORMATION.

	CADNETIX
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GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA *A TEKTRONIX COMPANY*

DRAWN EV	DATE 12-04-90	COMPONENT LOCATION D2 INPUT SUBMODULE
ENGINEER MB		
CHECKED	DATE	
APPROVED	DATE	SIZE B · DRAWING NO. 07/08-064705-01 E1
PILOT RUN RLSE	DATE	
ENGRG RLSE	DATE	SCALE: NONE · SHEET 1 OF 1

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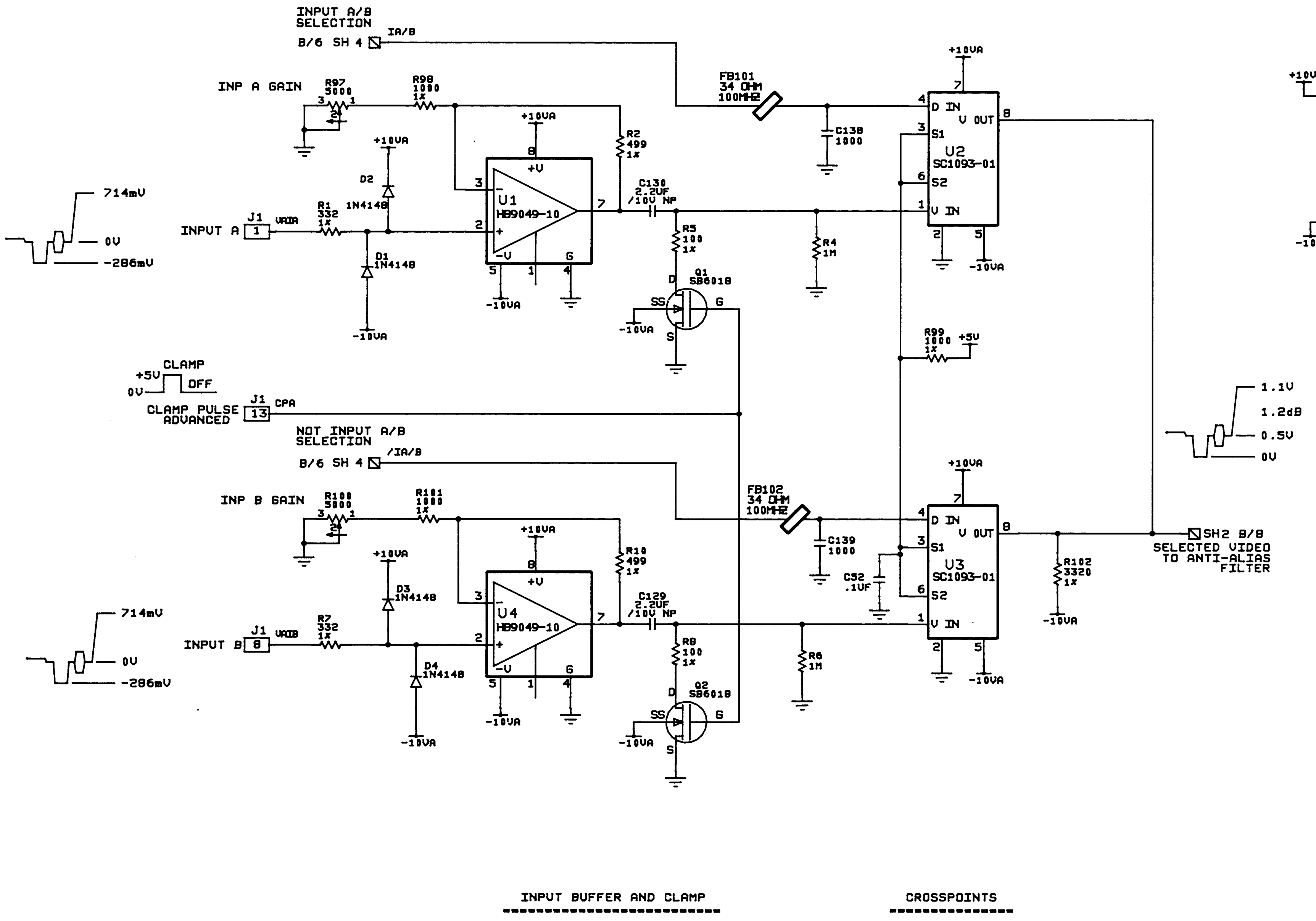
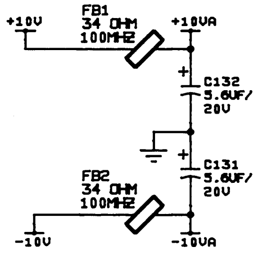
REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
A1	W711	EV	2/90		RB	—	—
PILOT RUN RELEASE. NEW PCB.							
B1	W715	CDP	5/90		RB	—	—
ISSUE UPDATE							
C1	W731	CDP	5/90		RB	—	—
ISSUE UPDATE							
D1	W796	CDP	5/90		RB	—	—
ADD R92							
E1	W643	CDP	5/90		RB	—	—
ISSUE UPDATE							
F1	W941	PLUM	2/91	—	mB	—	—
ISSUE UPDATE							
H1	Z148	PLUM	2/91	—	mB	3.91	—
ADDED NOTE 1 TO SHEET 6.							


INPUT A/B SELECTION
B/6 SH 4
IA/B
INP A GAIN
R97 5000
R98 1000 1%
+10VA
R2 499 1%
D2 1N4148
714mV
0V
-286mV
INPUT A
J1 1
VAIA
R1 332 1%
D1 1N4148
-10VA
U1 HB9049-10
+V
-V
G
C130 2.2UF /10V NP
R5 100 1%
Q1 SB6018
D
SS
S
G
FB101 34 OHM 100MHZ
C138 1000
R4 1M
U2 SC1093-01
D IN
V OUT
S1
S2
V IN
R99 1000 1% +5V
CLAMP
+5V
0V
OFF
CLAMP PULSE ADVANCED
J1 13
CPA
NOT INPUT A/B SELECTION
B/6 SH 4
/IA/B
INP B GAIN
R100 5000
R101 1000 1%
R10 499 1%
D3 1N4148
INPUT B
J1 8
VAIB
R7 332 1%
D4 1N4148
U4 HB9049-10
C129 2.2UF /10V NP
R8 100 1%
Q2 SB6018
FB102 34 OHM 100MHZ
C139 1000
C52 .1UF
R6 1M
U3 SC1093-01
R102 3320 1%
1.1V
1.2dB
0.5V
0V
SH2 B/8
SELECTED VIDEO TO ANTI-ALIAS FILTER
INPUT BUFFER AND CLAMP
CROSSPOINTS


+10V
FB1 34 OHM 100MHZ
+10VA
C132 5.6UF/ 20V
C131 5.6UF/ 20V
FB2 34 OHM 100MHZ
-10V
-10VA

	CADNETIX
DPM-100	
USED ON	NEXT ASSY
APPLICATION	
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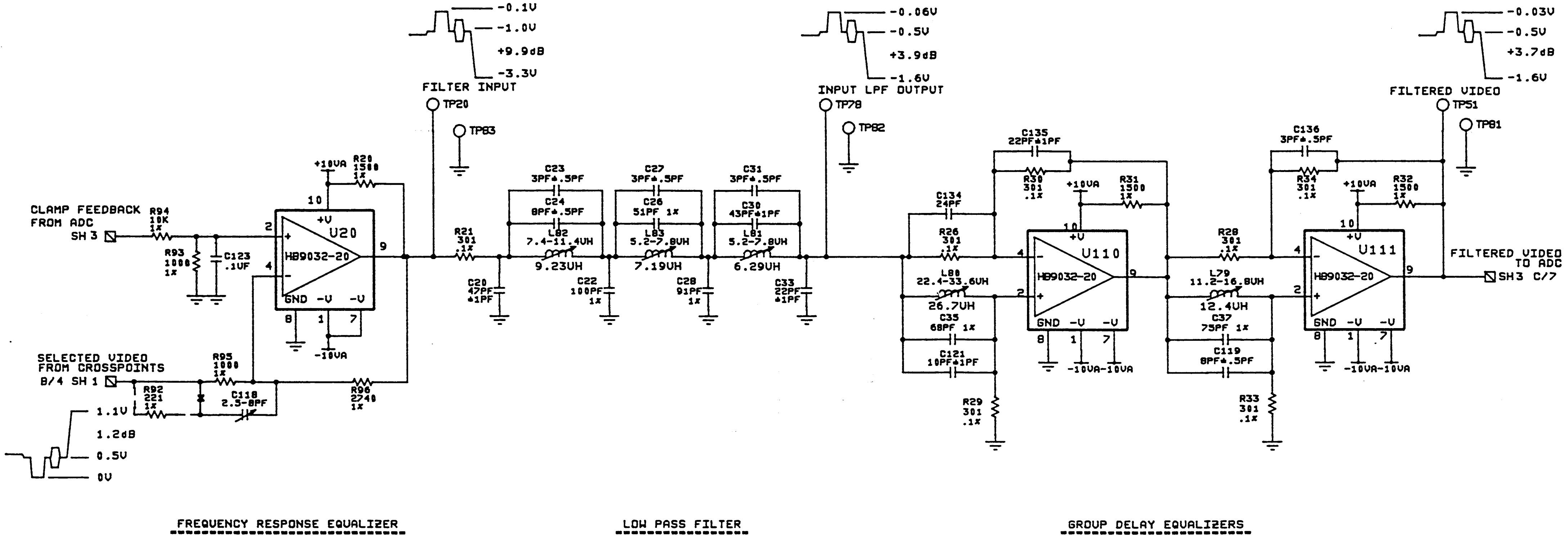
GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA
A TEKTRONIX COMPANY

DRAWN MMB/RB DATE 1/90
ENGINEER RB
CHECKED DATE
APPROVED RB DATE 2/90
PILOT RUN RLSE RB DATE
PRODUCTION RLSE DATE

SCHEMATIC DIAGRAM
INPUT SUBMODULE
COMPOSITE ANALOG
INPUT, SPNT, DC RESTORER

SIZE D
DRAWING NO. 10-064705-01
REV H1
SCALE: NONE
SHEET 1 OF 7

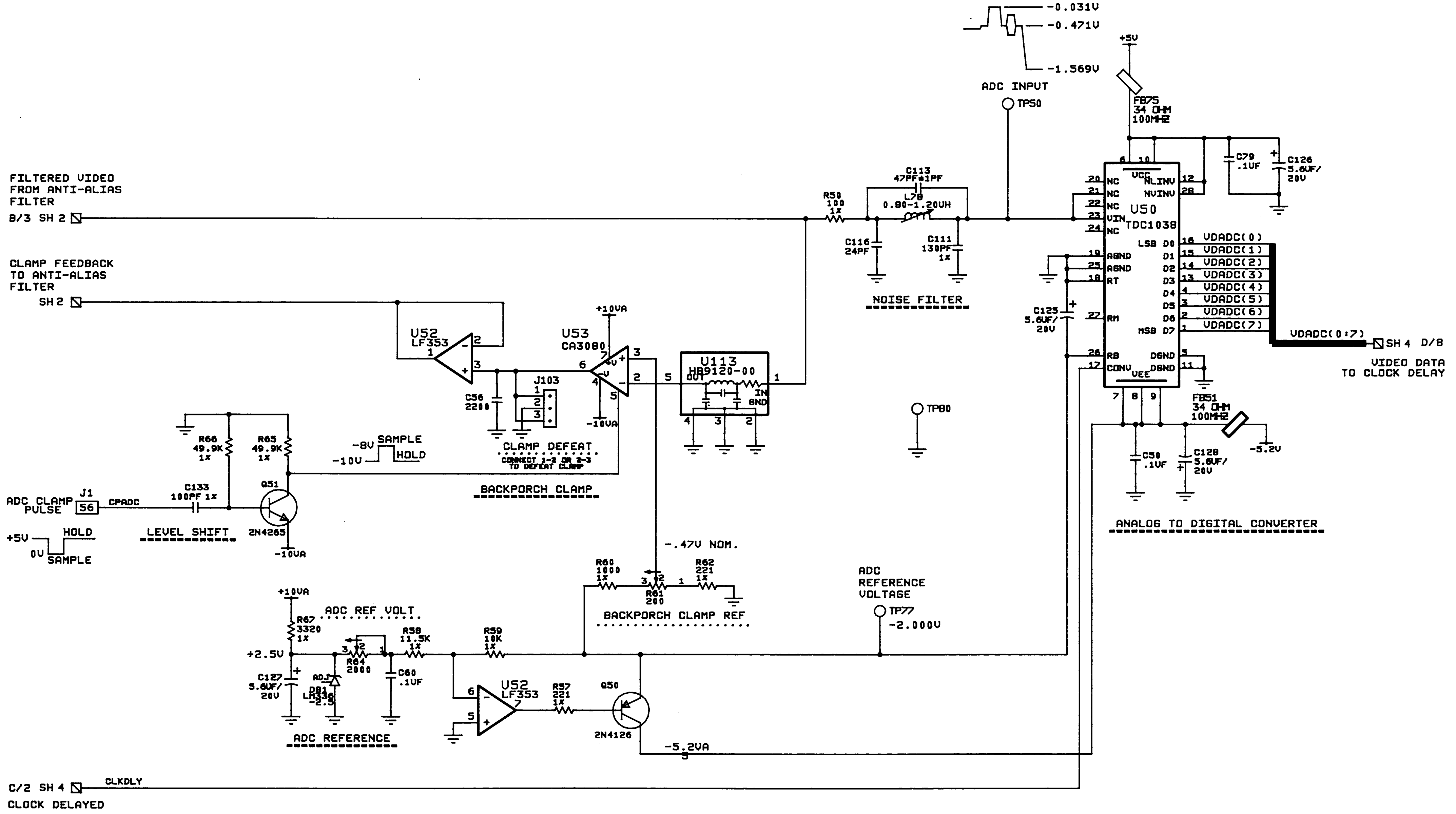
SEE SHEET ONE FOR REVISIONS


-0.1V
-1.0V
+9.9dB
-3.3V
FILTER INPUT
TP20
TP83
-0.06V
-0.5V
+3.9dB
-1.6V
INPUT LPF OUTPUT
TP78
TP82
-0.03V
-0.5V
+3.7dB
-1.6V
FILTERED VIDEO
TP51
TP81
CLAMP FEEDBACK
FROM ADC
SH 3
R94
10K
1%
R93
1000
1%
C123
.1UF
+10VA
R20
1500
1%
10
2
4
+V
U20
HB9032-20
GND -V -V
8 1 7
9
-10VA
SELECTED VIDEO
FROM CROSSPOINTS
B/4 SH 1
R92
221
1%
R95
1000
1%
C118
2.5-8PF
R96
2740
1%
1.1V
1.2dB
0.5V
0V
R21
301
.1%
C20
47PF
±1PF
C23
3PF±.5PF
C24
8PF±.5PF
L82
7.4-11.4UH
9.23UH
C22
100PF
1%
C27
3PF±.5PF
C26
51PF 1%
L83
5.2-7.8UH
7.19UH
C28
91PF
1%
C31
3PF±.5PF
C30
43PF±1PF
L81
5.2-7.8UH
6.29UH
C33
22PF
±1PF
C135
22PF±1PF
C134
24PF
R30
301
.1%
+10VA
R31
1500
1%
R26
301
.1%
L80
22.4-33.6UH
26.7UH
C35
68PF 1%
C121
10PF±1PF
R29
301
.1%
10
+V
U110
HB9032-20
4
2
9
GND -V -V
8 1 7
-10VA -10VA
C136
3PF±.5PF
R34
301
.1%
+10VA
R32
1500
1%
R28
301
.1%
L79
11.2-16.8UH
12.4UH
C37
75PF 1%
C119
8PF±.5PF
R33
301
.1%
10
+V
U111
HB9032-20
4
2
9
GND -V -V
8 1 7
-10VA -10VA
FILTERED VIDEO
TO ADC
SH3 C/7
FREQUENCY RESPONSE EQUALIZER
LOW PASS FILTER
GROUP DELAY EQUALIZERS

SCHEMATIC DIAGRAM
INPUT SUBMODULE
COMPOSITE ANALOG
ANTI-ALIASING FILTERS

SIZE	DRAWING NO.	REV
D	10-064705-01	H1
SCALE: NONE	SHEET 2 OF 7	

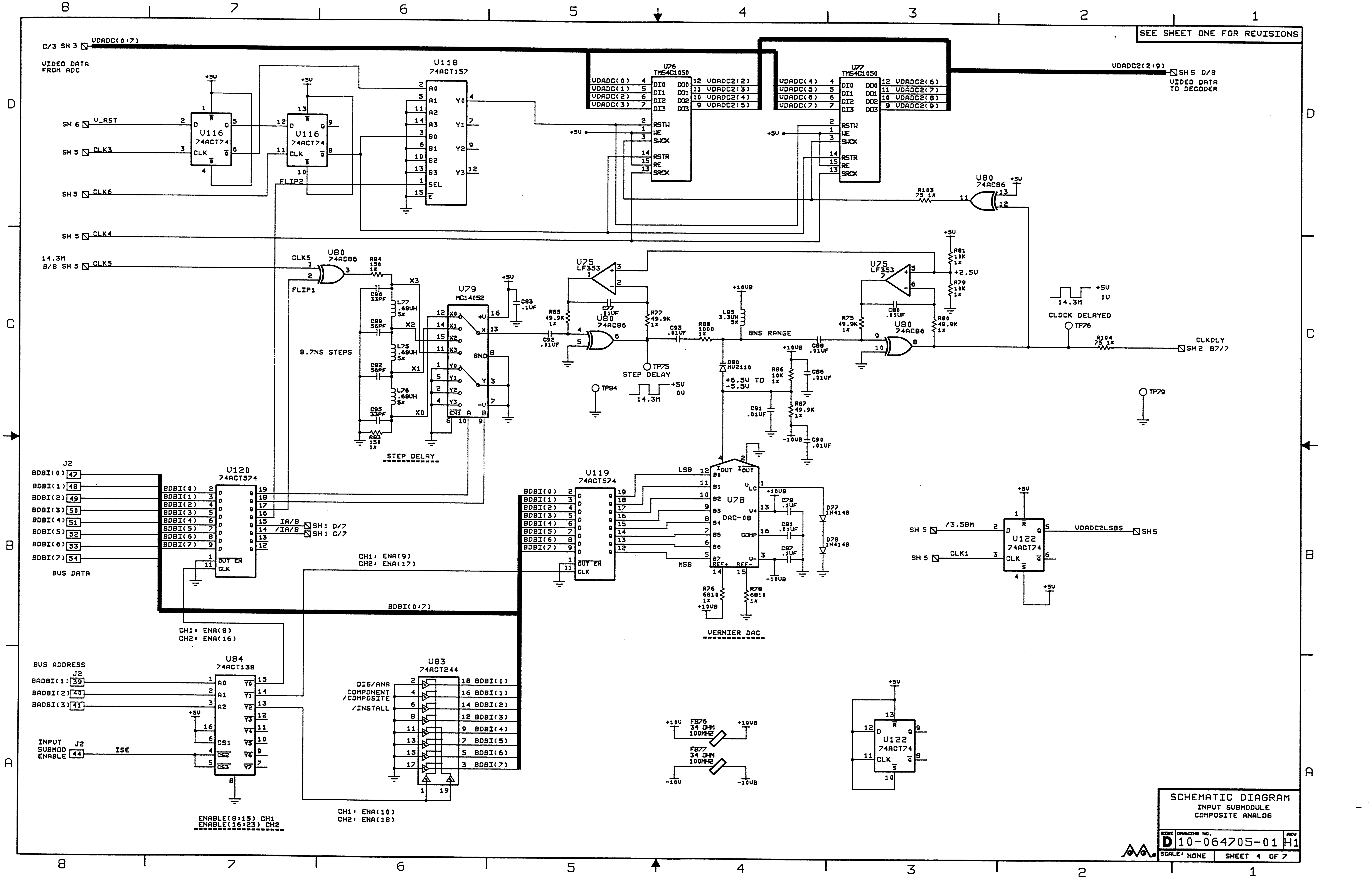
SEE SHEET ONE FOR REVISIONS



FILTERED VIDEO
FROM ANTI-ALIAS
FILTER
B/3 SH 2
CLAMP FEEDBACK
TO ANTI-ALIAS
FILTER
SH 2
U52
LF353
U53
CA3080
+10VA
-10VA
J103
C56
2200
CLAMP DEFEAT
CONNECT 1-2 OR 2-3
TO DEFEAT CLAMP
U113
HA9120-00
OUT
IN
GND
BACKPORCH CLAMP
-8V SAMPLE
-10V HOLD
R66
49.9K
1%
R65
49.9K
1%
Q51
2N4265
-10VA
ADC CLAMP
PULSE
J1
56
CPADC
C133
100PF 1%
LEVEL SHIFT
+5V HOLD
0V SAMPLE
-.47V NOM.
R60
1000
1%
R61
200
R62
221
1%
BACKPORCH CLAMP REF
+10VA
ADC REF VOLT
R67
3320
1%
+2.5V
R64
2000
R58
11.5K
1%
R59
10K
1%
C127
5.6UF/
20V
ADJ
D81
LM336
-2.5
C60
.1UF
ADC REFERENCE
U52
LF353
R57
221
1%
Q50
2N4126
-5.2VA
ADC
REFERENCE
VOLTAGE
TP77
-2.000V
C/2 SH 4
CLKDLY
CLOCK DELAYED
R50
100
1%
C113
47PF±1PF
L78
0.80-1.20UH
C116
24PF
C111
130PF
1%
NOISE FILTER
-0.031V
-0.471V
-1.569V
ADC INPUT
TP50
TP80
+5V
FB75
34 OHM
100MHZ
C79
.1UF
C126
5.6UF/
20V
U50
TDC1038
VCC
NC
VIN
AGND
RT
RM
RB
CONV
VEE
NLINV
NVINV
LSB D0
D1
D2
D3
D4
D5
D6
MSB D7
DGND
C125
5.6UF/
20V
VDADC(0)
VDADC(1)
VDADC(2)
VDADC(3)
VDADC(4)
VDADC(5)
VDADC(6)
VDADC(7)
VDADC(0:7)
SH 4 D/8
VIDEO DATA
TO CLOCK DELAY
FB51
34 OHM
100MHZ
-5.2V
C58
.1UF
C128
5.6UF/
20V
ANALOG TO DIGITAL CONVERTER

SCHEMATIC DIAGRAM
INPUT SUBMODULE
COMPOSITE ANALOG
ANALOG TO DIGITAL CONVERTER

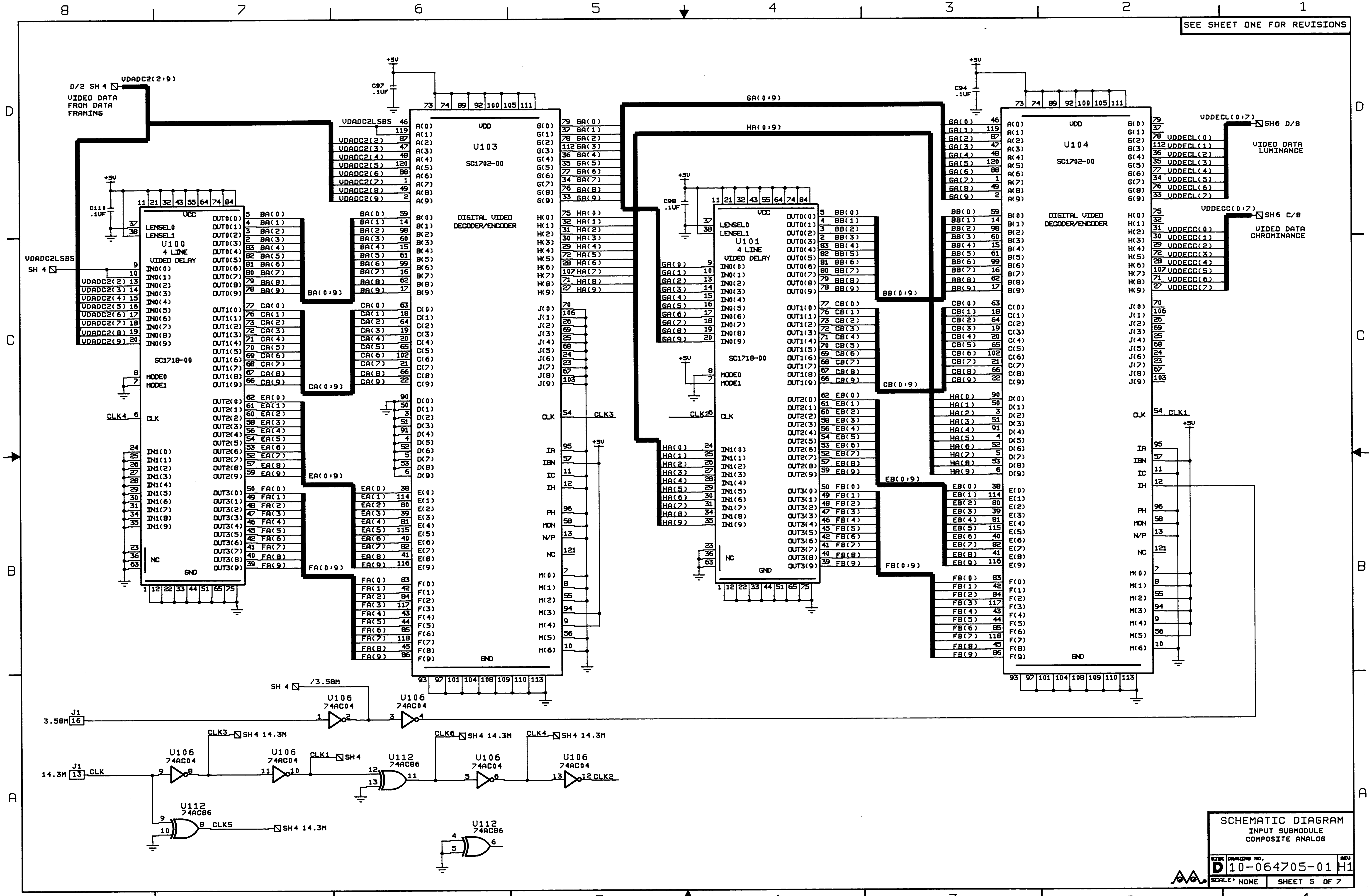
SIZE D
DRAWING NO. 10-064705-01
REV H1
SCALE: NONE
SHEET 3 OF 7


SEE SHEET ONE FOR REVISIONS
C/3 SH 3
VDADC(0:7)
VIDEO DATA FROM ADC
SH 6 V_RST
SH 5 CLK3
SH 5 CLK6
SH 5 CLK4
14.3M 8/8 SH 5 CLK5
U116 74ACT74
U118 74ACT157
FLIP2
FLIP1
U76 TMS4C1050
U77 TMS4C1050
VDADC2(2:9)
SH 5 D/8
VIDEO DATA TO DECODER
U80 74AC86
R103 75 1%
U79 MC14052
STEP DELAY
8.7NS STEPS
U75 LF353
TP75
TP84
TP76
TP79
CLOCK DELAYED
14.3M
+5V
0V
+2.5V
8NS RANGE
CLKDLY SH 2 B7/7
R104 75 1%
D80 MV2110
+6.5V TO -5.5V
L85 3.3UH 5%
U78 DAC-08
VERNIER DAC
LSB
MSB
D77 1N4148
D78 1N4148
J2
BDBI(0) 47
BDBI(1) 48
BDBI(2) 49
BDBI(3) 50
BDBI(4) 51
BDBI(5) 52
BDBI(6) 53
BDBI(7) 54
BUS DATA
U120 74ACT574
IA/B SH 1 D/7
/IA/B SH 1 C/7
U119 74ACT574
CH1: ENA(9)
CH2: ENA(17)
BDBI(0:7)
CH1: ENA(8)
CH2: ENA(16)
BUS ADDRESS
BADBI(1) 39
BADBI(2) 40
BADBI(3) 41
INPUT SUBMOD ENABLE J2 44
ISE
U84 74ACT138
ENABLE(8:15) CH1
ENABLE(16:23) CH2
U83 74ACT244
DIG/ANA
COMPONENT /COMPOSITE
/INSTALL
CH1: ENA(10)
CH2: ENA(18)
FB76 34 OHM 100MHZ
FB77 34 OHM 100MHZ
+10V
+10VB
-10V
-10VB
SH 5 /3.58M
SH 5 CLK1
U122 74ACT74
VDADC2LSBS SH5

SCHEMATIC DIAGRAM
INPUT SUBMODULE
COMPOSITE ANALOG

SIZE	DRAWING NO.	REV
D	10-064705-01	H1
SCALE: NONE	SHEET 4 OF 7	

SEE SHEET ONE FOR REVISIONS

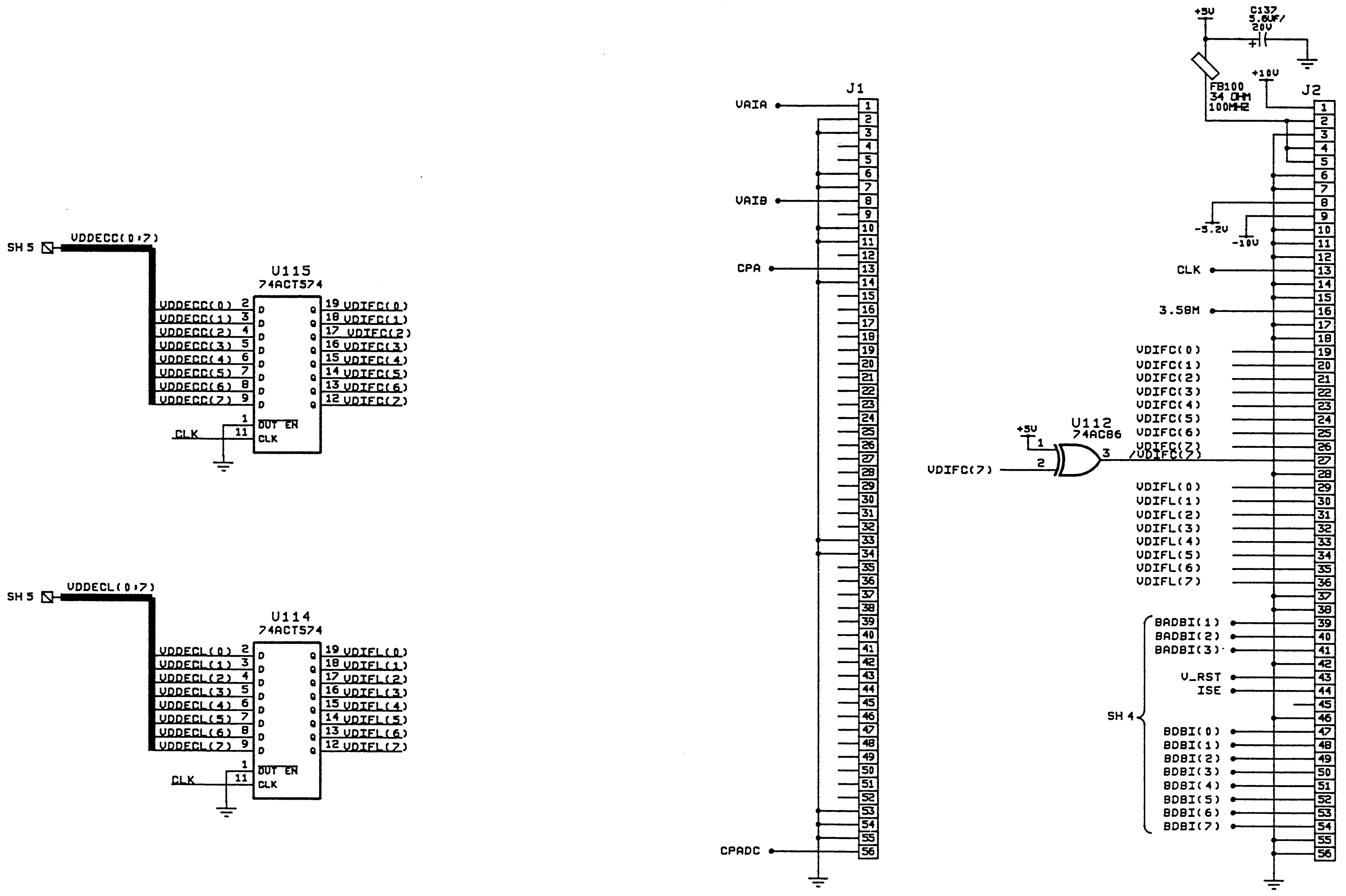

D/2 SH 4
VDADC2(2:9)
VIDEO DATA FROM DATA FRAMING
VDADC2LSBS SH 4
+5V
C118 .1UF
U100
4 LINE VIDEO DELAY
SC1718-00
VCC
LENSEL0
LENSEL1
MODE0
MODE1
CLK4
CLK
NC
GND
BA(0:9)
CA(0:9)
EA(0:9)
FA(0:9)
C97 .1UF
U103
SC1702-00
DIGITAL VIDEO DECODER/ENCODER
VDD
CLK3
GA(0:9)
HA(0:9)
C98 .1UF
U101
4 LINE VIDEO DELAY
SC1718-00
CLK2
BB(0:9)
CB(0:9)
EB(0:9)
FB(0:9)
C94 .1UF
U104
SC1702-00
DIGITAL VIDEO DECODER/ENCODER
CLK1
VDDECL(0:7)
SH6 D/8
VIDEO DATA LUMINANCE
VDDECC(0:7)
SH6 C/8
VIDEO DATA CHROMINANCE
SH 4 /3.58M
3.58M J1 16
U106 74AC04
14.3M J1 13 CLK
CLK3 SH4 14.3M
CLK1 SH4
U112 74AC86
CLK6 SH4 14.3M
CLK4 SH4 14.3M
CLK2
CLK5 SH4 14.3M
IA IBN IC IH PH MON N/P NC
M(0) M(1) M(2) M(3) M(4) M(5) M(6)

SCHEMATIC DIAGRAM
INPUT SUBMODULE
COMPOSITE ANALOG

SIZE	DRAWING NO.	REV
D	10-064705-01	H1

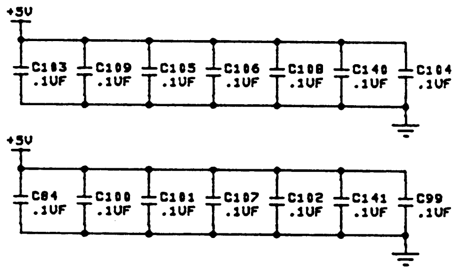
SCALE: NONE SHEET 5 OF 7

SEE SHEET ONE FOR REVISIONS


SH 5
VDDECC(0:7)
U115
74ACT574
VDDECC(0) 2 D
VDDECC(1) 3 D
VDDECC(2) 4 D
VDDECC(3) 5 D
VDDECC(4) 6 D
VDDECC(5) 7 D
VDDECC(6) 8 D
VDDECC(7) 9 D
Q 19 VDIFC(0)
Q 18 VDIFC(1)
Q 17 VDIFC(2)
Q 16 VDIFC(3)
Q 15 VDIFC(4)
Q 14 VDIFC(5)
Q 13 VDIFC(6)
Q 12 VDIFC(7)
1 OUT EN
CLK 11 CLK
SH 5
VDDECL(0:7)
U114
74ACT574
VDDECL(0) 2 D
VDDECL(1) 3 D
VDDECL(2) 4 D
VDDECL(3) 5 D
VDDECL(4) 6 D
VDDECL(5) 7 D
VDDECL(6) 8 D
VDDECL(7) 9 D
Q 19 VDIFL(0)
Q 18 VDIFL(1)
Q 17 VDIFL(2)
Q 16 VDIFL(3)
Q 15 VDIFL(4)
Q 14 VDIFL(5)
Q 13 VDIFL(6)
Q 12 VDIFL(7)
1 OUT EN
CLK 11 CLK
J1
VAIA
VAIB
CPA
CPADC
+5V
C137
5.6UF/
20V
FB100
34 OHM
100MHZ
+10V
J2
-5.2V
-10V
CLK
3.58M
VDIFC(0)
VDIFC(1)
VDIFC(2)
VDIFC(3)
VDIFC(4)
VDIFC(5)
VDIFC(6)
VDIFC(7)
U112
74AC86
+5V
1
VDIFC(7)
2
3
/VDIFC(7)
VDIFL(0)
VDIFL(1)
VDIFL(2)
VDIFL(3)
VDIFL(4)
VDIFL(5)
VDIFL(6)
VDIFL(7)
BADBI(1)
BADBI(2)
BADBI(3)
V_RST
ISE
SH 4
BDBI(0)
BDBI(1)
BDBI(2)
BDBI(3)
BDBI(4)
BDBI(5)
BDBI(6)
BDBI(7)

NOTES:

1. ADD PLUG/KEY TO J1-53 AND J2-3 FOR PROPER ORIENTATION OF SUBMODULE TO BOARD.


+5V
C103 .1UF
C109 .1UF
C105 .1UF
C106 .1UF
C108 .1UF
C140 .1UF
C104 .1UF
+5V
C84 .1UF
C100 .1UF
C101 .1UF
C107 .1UF
C102 .1UF
C141 .1UF
C99 .1UF

REF. NO.	IC TYPE	+5V	GND	+10VC	-10VC	+10VD	-10VD
U52	LF353			4	8		
U75	LF353					4	8
U76,77,81,82, 105	74ACT574	20	10				
U80,106	74ACT86	14	7				
U83	74ACT244	20	10				
U84	74ACT138	16	8				

SCHEMATIC DIAGRAM
INPUT SUBMODULE
COMPOSITE ANALCG
SETUP PROC. AND CHROMA DELAY

SIZE	DRAWING NO.	REV
D	10-064705-01	H1

SCALE: NONE
SHEET 6 OF 7

D 10-064705-01 H1 7

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REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
A1	——	——	——	——	——		——

SEE SHEET 1 FOR REVISIONS.

Net name to page:

+10V	1,4,6	+10VA	1,2,3	+10VB	4	+5V	1,3,4,5,6
-10V	1,4,6	-10VA	1,2,3	-10VB	4	-5.2V	3,6
-5.2VA	3	/3.58M	4,5	/IA/B	1,4	/VDIFC(7)	6
3.58M	5,6	BA(0)	5	BA(1)	5	BA(2)	5
BA(3)	5	BA(4)	5	BA(5)	5	BA(6)	5
BA(7)	5	BA(8)	5	BA(9)	5	BADBI(1)	4,6
BADBI(2)	4,6	BADBI(3)	4,6	BB(0)	5	BB(1)	5
BB(2)	5	BB(3)	5	BB(4)	5	BB(5)	5
BB(6)	5	BB(7)	5	BB(8)	5	BB(9)	5
BDBI(0)	4,6	BDBI(1)	4,6	BDBI(2)	4,6	BDBI(3)	4,6
BDBI(4)	4,6	BDBI(5)	4,6	BDBI(6)	4,6	BDBI(7)	4,6
CA(0)	5	CA(1)	5	CA(2)	5	CA(3)	5
CA(4)	5	CA(5)	5	CA(6)	5	CA(7)	5
CA(8)	5	CA(9)	5	CB(0)	5	CB(1)	5
CB(2)	5	CB(3)	5	CB(4)	5	CB(5)	5
CB(6)	5	CB(7)	5	CB(8)	5	CB(9)	5
CLAMP FEEDBACK	2,3	CLK	5,6	CLK1	4,5	CLK2	5
CLK3	4,5	CLK4	4,5	CLK5	4,5	CLK6	4,5
CLKDLY	3,4	CPA	1,6	CPADC	3,6	EA(0)	5
EA(1)	5	EA(2)	5	EA(3)	5	EA(4)	5
EA(5)	5	EA(6)	5	EA(7)	5	EA(8)	5
EA(9)	5	EB(0)	5	EB(1)	5	EB(2)	5
EB(3)	5	EB(4)	5	EB(5)	5	EB(6)	5
EB(7)	5	EB(8)	5	EB(9)	5	ENA(10)	4
ENA(8)	4	ENA(9)	4	FA(0)	5	FA(1)	5
FA(2)	5	FA(3)	5	FA(4)	5	FA(5)	5
FA(6)	5	FA(7)	5	FA(8)	5	FA(9)	5
FB(0)	5	FB(1)	5	FB(2)	5	FB(3)	5
FB(4)	5	FB(5)	5	FB(6)	5	FB(7)	5
FB(8)	5	FB(9)	5	FILTERED VIDEO	2,3	FLIP1	4
FLIP2	4	GA(0)	5	GA(1)	5	GA(2)	5
GA(3)	5	GA(4)	5	GA(5)	5	GA(6)	5
GA(7)	5	GA(8)	5	GA(9)	5	GND	1,2,3,4,5,6
HA(0)	5	HA(1)	5	HA(2)	5	HA(3)	5
HA(4)	5	HA(5)	5	HA(6)	5	HA(7)	5
HA(8)	5	HA(9)	5	IA/B	1,4	ISE	4,6
SELECTED VIDEO	1,2	VAIA	1,6	VAIB	1,6	VDADC(0)	3,4
VDADC(1)	3,4	VDADC(2)	3,4	VDADC(3)	3,4	VDADC(4)	3,4
VDADC(5)	3,4	VDADC(6)	3,4	VDADC(7)	3,4	VDADC2(2)	4,5
VDADC2(3)	4,5	VDADC2(4)	4,5	VDADC2(5)	4,5	VDADC2(6)	4,5
VDADC2(7)	4,5	VDADC2(8)	4,5	VDADC2(9)	4,5	VDADC2LSBS	4,5
VDDECC(0)	5,6	VDDECC(1)	5,6	VDDECC(2)	5,6	VDDECC(3)	5,6
VDDECC(4)	5,6	VDDECC(5)	5,6	VDDECC(6)	5,6	VDDECC(7)	5,6
VDDECL(0)	5,6	VDDECL(1)	5,6	VDDECL(2)	5,6	VDDECL(3)	5,6
VDDECL(4)	5,6	VDDECL(5)	5,6	VDDECL(6)	5,6	VDDECL(7)	5,6
VDIFC(0)	6	VDIFC(1)	6	VDIFC(2)	6	VDIFC(3)	6
VDIFC(4)	6	VDIFC(5)	6	VDIFC(6)	6	VDIFC(7)	6
VDIFL(0)	6	VDIFL(1)	6	VDIFL(2)	6	VDIFL(3)	6
VDIFL(4)	6	VDIFL(5)	6	VDIFL(6)	6	VDIFL(7)	6
V_RST	4,6						

Reference Designator to page:

1	1	C20	2	C22	2	C23	2	C24	2	C26	2	C27	2
C28	2	C30	2	C31	2	C33	2	C35	2	C37	2	C50	3
C52	1	C56	3	C60	3	C77	4	C78	4	C79	3	C80	4
C81	4	C82	4	C83	4	C84	6	C86	4	C87	4	C88	4
C89	4	C90	4	C91	4	C92	4	C93	4	C94	5	C95	4
C96	4	C97	5	C98	5	C99	6	C100	6	C101	6	C102	6
C103	6	C104	6	C105	6	C106	6	C107	6	C108	6	C109	6
C110	5	C111	3	C113	3	C116	3	C118	2	C119	2	C121	2
C123	2	C125	3	C126	3	C127	3	C128	3	C129	1	C130	1
C131	1	C132	1	C133	3	C134	2	C135	2	C136	2	C137	6
C138	1	C139	1	C140	6	C141	6	D1	1	D2	1	D3	1
D4	1	D77	4	D78	4	D80	4	D81	3	FB1	1	FB2	1
FB51	3	FB75	3	FB76	4	FB77	4	FB100	6	FB101	1	FB102	1
J1	6	J2	6	J103	3	L75	4	L76	4	L77	4	L78	3
L79	2	L80	2	L81	2	L82	2	L83	2	L85	4	Q1	1
Q2	1	Q50	3	Q51	3	R1	1	R2	1	R4	1	R5	1
R6	1	R7	1	R8	1	R10	1	R20	2	R21	2	R26	2
R28	2	R29	2	R30	2	R31	2	R32	2	R33	2	R34	2
R50	3	R57	3	R58	3	R59	3	R60	3	R61	3	R62	3
R64	3	R65	3	R66	3	R67	3	R75	4	R76	4	R77	4
R78	4	R79	4	R80	4	R81	4	R83	4	R84	4	R85	4
R86	4	R87	4	R88	4	R93	2	R94	2	R95	2	R96	2
R97	1	R98	1	R99	1	R100	1	R101	1	R102	1	R103	4
R104	4	TP20	2	TP50	3	TP51	2	TP75	4	TP76	4	TP77	3
TP78	2	TP79	4	TP80	3	TP81	2	TP82	2	TP83	2	TP84	4
U1	1	U2	1	U3	1	U4	1	U20	2	U50	3	U52	3
U53	3	U75	4	U76	4	U77	4	U78	4	U79	4	U80	4
U83	4	U84	4	U100	5	U101	5	U103	5	U104	5	U106	5
U110	2	U111	2	U112	5,6	U113	3	U114	6	U115	6	U116	4
U118	4	U119	4	U120	4	U122	4						

ADD ON(S) Reference Designator to page:

R92	2

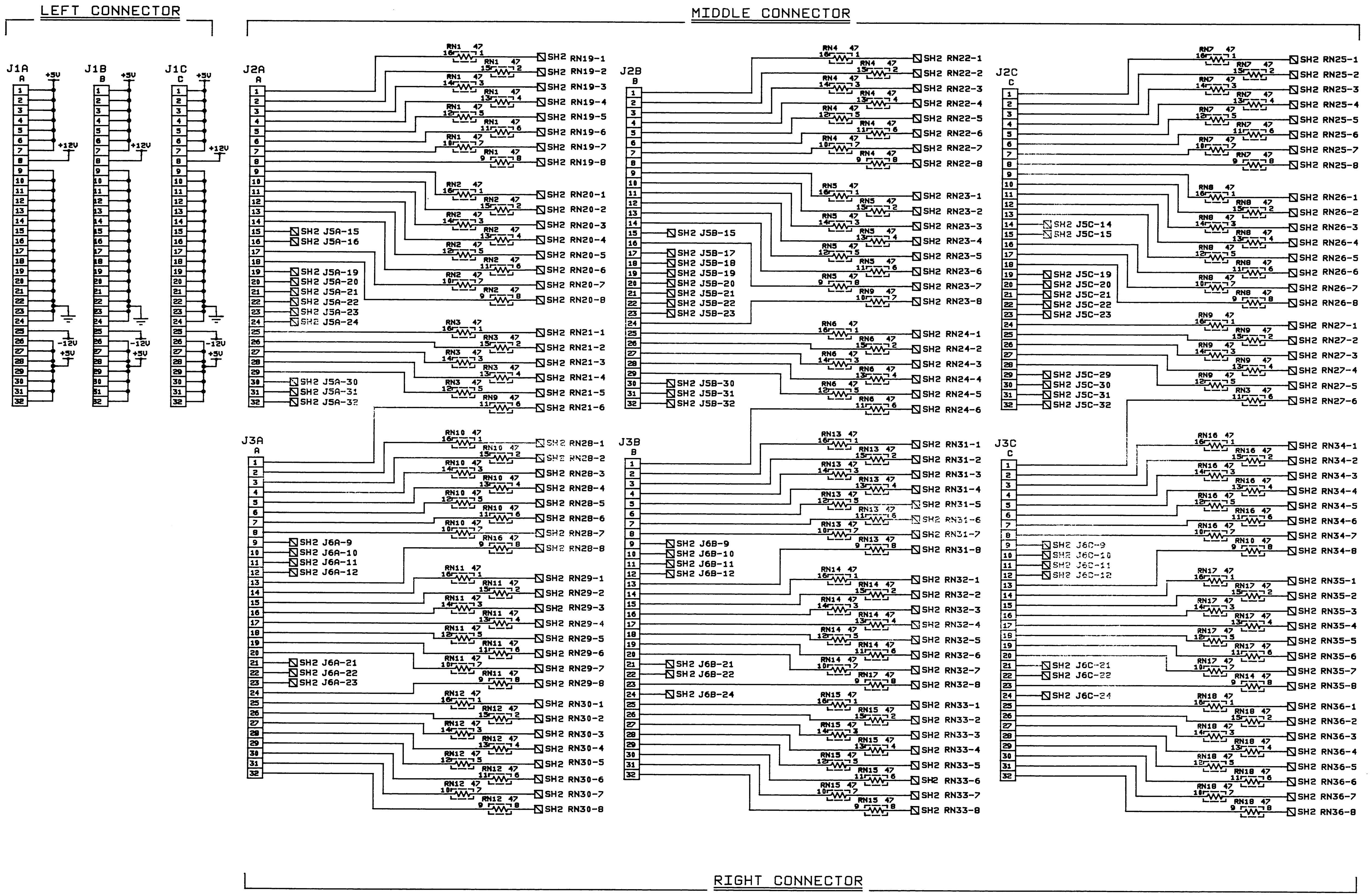
GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA *A TEKTRONIX COMPANY*

	CADNETIX
DPM-100	064705
USED ON	NEXT ASSY
APPLICATION	
DISTRIBUTION	

RB/MMB 01/09/90
RB/MMB

SCHEMATIC DIAGRAM
NTSC ANALOG INPUT SUBMOD.
COMPOSITE ANALOG
CROSS REFERENCE

D 10-064705-01 H1
NONE
SHEET 7 OF 7


LEFT CONNECTOR
MIDDLE CONNECTOR
RIGHT CONNECTOR
J1A
J1B
J1C
J2A
J2B
J2C
J3A
J3B
J3C
+5V
+12V
-12V
RN 47
SH2 RN19-1 … SH2 RN19-8
SH2 RN20-1 … SH2 RN20-8
SH2 RN21-1 … SH2 RN21-6
SH2 RN22-1 … SH2 RN22-8
SH2 RN23-1 … SH2 RN23-8
SH2 RN24-1 … SH2 RN24-6
SH2 RN25-1 … SH2 RN25-8
SH2 RN26-1 … SH2 RN26-8
SH2 RN27-1 … SH2 RN27-6
SH2 RN28-1 … SH2 RN28-8
SH2 RN29-1 … SH2 RN29-8
SH2 RN30-1 … SH2 RN30-8
SH2 RN31-1 … SH2 RN31-8
SH2 RN32-1 … SH2 RN32-8
SH2 RN33-1 … SH2 RN33-8
SH2 RN34-1 … SH2 RN34-8
SH2 RN35-1 … SH2 RN35-8
SH2 RN36-1 … SH2 RN36-8
SH2 J5A-15
SH2 J5A-16
SH2 J5A-19
SH2 J5A-20
SH2 J5A-21
SH2 J5A-22
SH2 J5A-23
SH2 J5A-24
SH2 J5A-30
SH2 J5A-31
SH2 J5A-32
SH2 J5B-15
SH2 J5B-17
SH2 J5B-18
SH2 J5B-19
SH2 J5B-20
SH2 J5B-21
SH2 J5B-22
SH2 J5B-23
SH2 J5B-30
SH2 J5B-31
SH2 J5B-32
SH2 J5C-14
SH2 J5C-15
SH2 J5C-19
SH2 J5C-20
SH2 J5C-21
SH2 J5C-22
SH2 J5C-23
SH2 J5C-29
SH2 J5C-30
SH2 J5C-31
SH2 J5C-32
SH2 J6A-9
SH2 J6A-10
SH2 J6A-11
SH2 J6A-12
SH2 J6A-21
SH2 J6A-22
SH2 J6A-23
SH2 J6B-9
SH2 J6B-10
SH2 J6B-11
SH2 J6B-12
SH2 J6B-21
SH2 J6B-22
SH2 J6B-24
SH2 J6C-9
SH2 J6C-10
SH2 J6C-11
SH2 J6C-12
SH2 J6C-21
SH2 J6C-22
SH2 J6C-24

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REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
X1	—	PLUM	—	—	—	—	—
A1	W440	JS	11/89	—	—	11-89	—

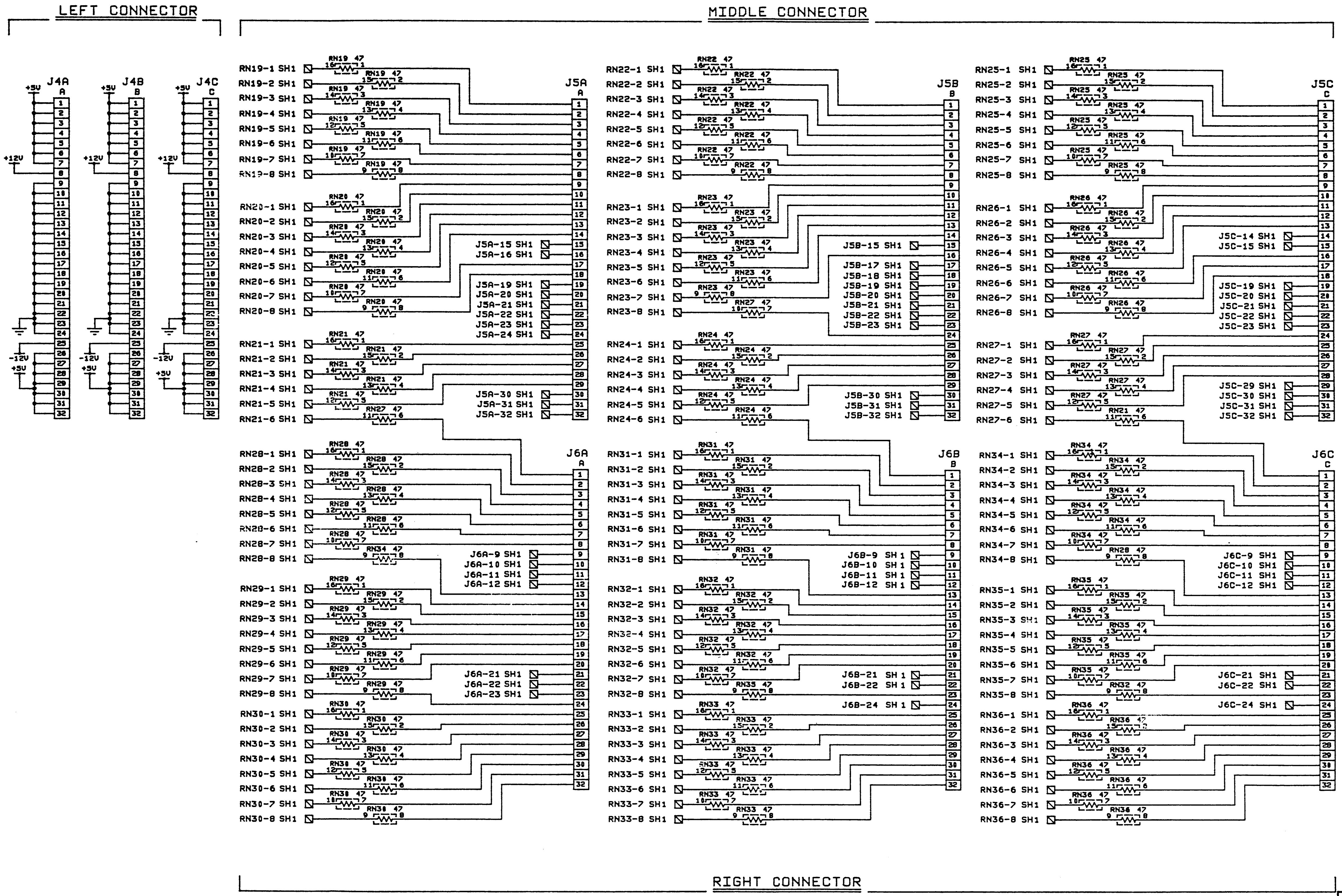
PILOT RUN RELEASE.

GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA A TEKTRONIX COMPANY

DRAWN PLUM DATE 20MAR89
ENGINEER DL
CHECKED DATE
APPROVED DATE
PILOT RUN BLNK DATE ADH 20Nov89
CADNETICS
DPM100
USED ON NEXT ASSY
APPLICATION
DISTRIBUTION

SCHEMATIC DIAGRAM
EXTENDER BOARD CONNECTIONS
CPU AND DIGITAL VIDEO BOARD

SIZE D DRAWING NO. 10-064708-00 A1
SCALE NONE SHEET 1 OF 2


LEFT CONNECTOR
MIDDLE CONNECTOR
RIGHT CONNECTOR
J4A
J4B
J4C
J5A
J5B
J5C
J6A
J6B
J6C
+5V
+12V
-12V
RN19-1 SH1
RN20-1 SH1
RN21-1 SH1
RN22-1 SH1
RN23-1 SH1
RN24-1 SH1
RN25-1 SH1
RN26-1 SH1
RN27-1 SH1
RN28-1 SH1
RN29-1 SH1
RN30-1 SH1
RN31-1 SH1
RN32-1 SH1
RN33-1 SH1
RN34-1 SH1
RN35-1 SH1
RN36-1 SH1
J5A-15 SH1
J5A-16 SH1
J5A-19 SH1
J5A-20 SH1
J5A-21 SH1
J5A-22 SH1
J5A-23 SH1
J5A-24 SH1
J5A-30 SH1
J5A-31 SH1
J5A-32 SH1
J5B-15 SH1
J5B-17 SH1
J5B-18 SH1
J5B-19 SH1
J5B-20 SH1
J5B-21 SH1
J5B-22 SH1
J5B-23 SH1
J5B-30 SH1
J5B-31 SH1
J5B-32 SH1
J5C-14 SH1
J5C-15 SH1
J5C-19 SH1
J5C-20 SH1
J5C-21 SH1
J5C-22 SH1
J5C-23 SH1
J5C-29 SH1
J5C-30 SH1
J5C-31 SH1
J5C-32 SH1
J6A-9 SH1
J6A-10 SH1
J6A-11 SH1
J6A-12 SH1
J6A-21 SH1
J6A-22 SH1
J6A-23 SH1
J6B-9 SH 1
J6B-10 SH 1
J6B-11 SH 1
J6B-12 SH 1
J6B-21 SH 1
J6B-22 SH 1
J6B-24 SH 1
J6C-9 SH1
J6C-10 SH1
J6C-11 SH1
J6C-12 SH1
J6C-21 SH1
J6C-22 SH1
J6C-24 SH1

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REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
X1	——	PLUM	——	——	——		——
A1	W440	JS	11/89	——	——	11-89	——

PILOT RUN RELEASE.

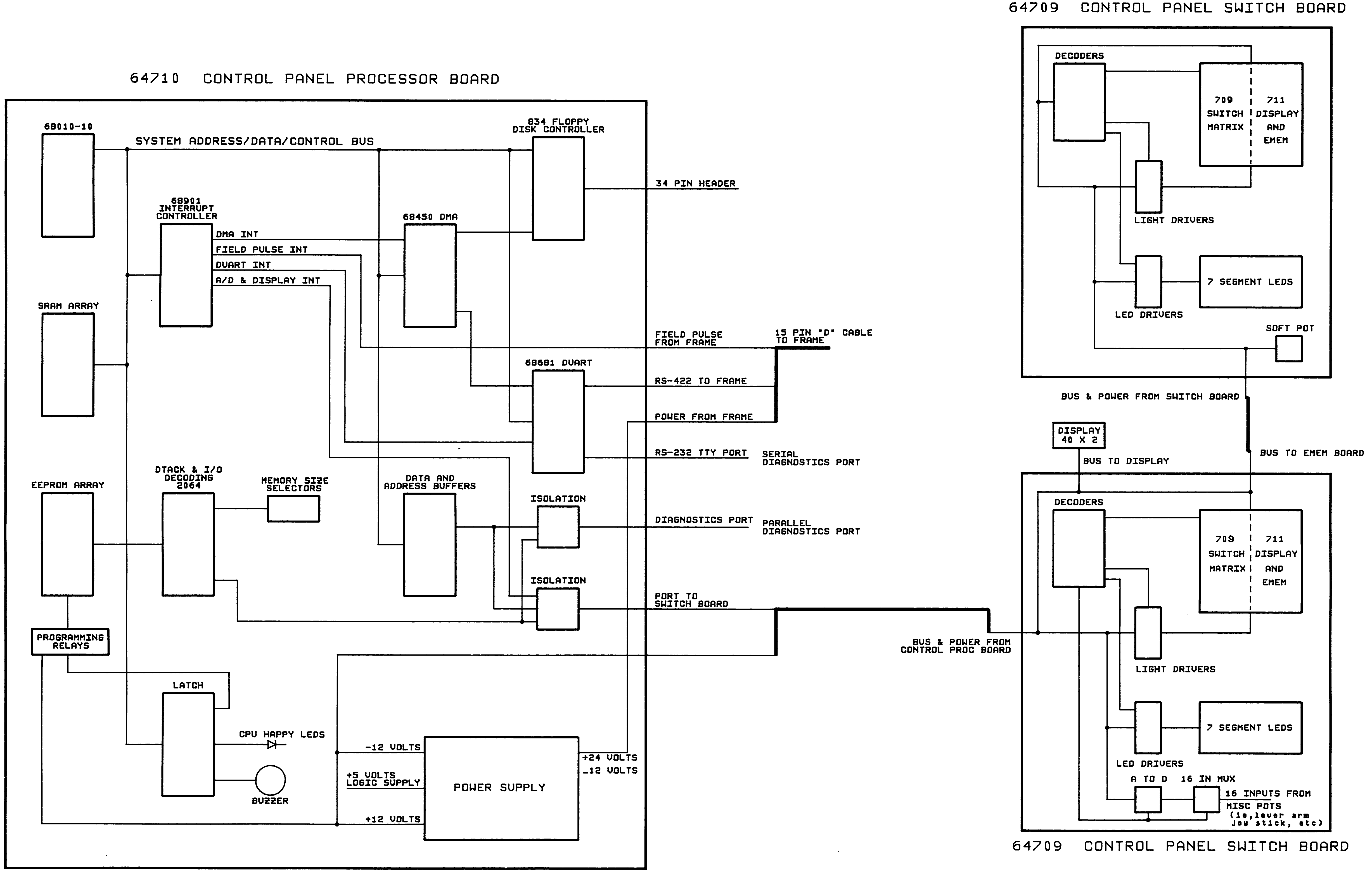
GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA A TEKTRONIX COMPANY

	CADNETICS
DPM100	
USED ON	NEXT ASSY
APPLICATION	
DISTRIBUTION	

DRAWN PLUM DATE 20MAR89
ENGINEER DL
CHECKED DATE
APPROVED DATE
PILOT RUN REL ADK DATE 20NOV89
PROD REL DATE

SCHEMATIC DIAGRAM
EXTENDER BOARD CONNECTIONS
CPU AND DIGITAL VIDEO BOARD

SIZE D DRAWING NO. 10-064708-00 A1
SCALE NONE SHEET 2 OF 2


64710 CONTROL PANEL PROCESSOR BOARD
68010-10
SYSTEM ADDRESS/DATA/CONTROL BUS
834 FLOPPY DISK CONTROLLER
34 PIN HEADER
68901 INTERRUPT CONTROLLER
DMA INT
FIELD PULSE INT
DUART INT
A/D & DISPLAY INT
68450 DMA
SRAM ARRAY
FIELD PULSE FROM FRAME
15 PIN "D" CABLE TO FRAME
68681 DUART
RS-422 TO FRAME
POWER FROM FRAME
RS-232 TTY PORT
SERIAL DIAGNOSTICS PORT
EEPROM ARRAY
DTACK & I/O DECODING 2064
MEMORY SIZE SELECTORS
DATA AND ADDRESS BUFFERS
ISOLATION
DIAGNOSTICS PORT
PARALLEL DIAGNOSTICS PORT
ISOLATION
PORT TO SWITCH BOARD
PROGRAMMING RELAYS
LATCH
CPU HAPPY LEDS
BUZZER
-12 VOLTS
+5 VOLTS LOGIC SUPPLY
+12 VOLTS
POWER SUPPLY
+24 VOLTS
-12 VOLTS
64709 CONTROL PANEL SWITCH BOARD
DECODERS
709 SWITCH MATRIX
711 DISPLAY AND EMEM
LIGHT DRIVERS
LED DRIVERS
7 SEGMENT LEDS
SOFT POT
BUS & POWER FROM SWITCH BOARD
BUS TO EMEM BOARD
DISPLAY 40 X 2
BUS TO DISPLAY
BUS & POWER FROM CONTROL PROC BOARD
DECODERS
709 SWITCH MATRIX
711 DISPLAY AND EMEM
LIGHT DRIVERS
LED DRIVERS
7 SEGMENT LEDS
A TO D
16 IN MUX
16 INPUTS FROM MISC POTS (ie, lever arm joy stick, etc)
64709 CONTROL PANEL SWITCH BOARD

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REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
A1	——	——	——	——	——		——

GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA *A TEKTRONIX COMPANY*

	CADNETICS
DPM-100	
USED ON	NEXT ASSY
APPLICATION	
DISTRIBUTION	

DRAWN AC DATE 11/21/89
DESIGNER JSB
CHECKED DATE
APPROVED DATE
B1.38

BLOCK DIAGRAM
CONTROL PANEL

SIZE D DRAWING NO. 00-064 709 710 711 -00 A1
SCALE: NONE SHEET 1 OF 1

SIZE B DWG NO. 07-064709-00 REV C1 SH 1

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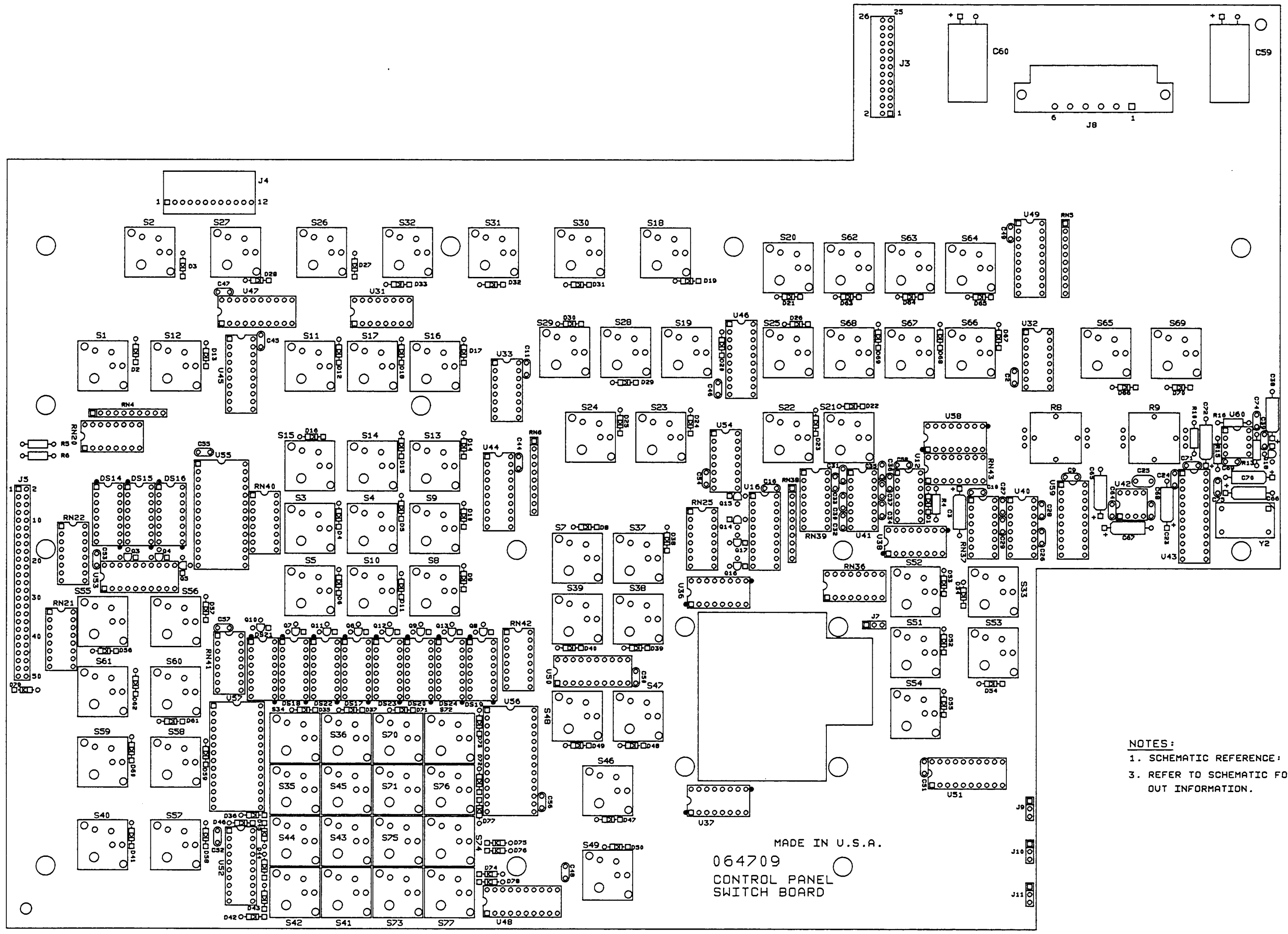
REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
A1	W419	AC	——	——	——		——
PILOT RUN RELEASE							
A2	W454	RSB	1/90				——
DOC ONLY							
B1	W463	RSB	1/90				——
Q3-13 WERE MPS650, NOW PN222A. RN40-42 WERE R22 OHM, NOW R100 OHM. C24,26-37,39,55-58,64,68,69,71,74,75 WERE CB0318-00, NOW CB0319-00							
C1	W556	RSB	1/90				——
D79 WAS 1N4148, NOW 1N5711.							


J3
J4
J5
J8
C59
C60
U49
S2
S27
S26
S32
S31
S30
S18
S20
S62
S63
S64
U47
U31
S1
S12
S11
S17
S16
U33
S29
S28
S19
U46
S25
S68
S67
S66
U32
S65
S69
S24
S23
S22
S21
U58
R8
R9
U62
U55
S15
S14
S13
U44
U54
DS14
DS15
DS16
RN22
S3
S4
S9
RN25
RN39
U41
U43
Y2
S5
S10
S8
S7
S37
S39
S38
RN36
S52
S55
S56
RN21
S61
S60
RN42
S51
S53
S54
S47
S59
S58
S34
S36
S70
S35
S45
S71
S76
S46
U56
U51
S40
S57
S44
S43
S75
S49
U37
S42
S41
S73
S77
U48
MADE IN U.S.A.
064709
CONTROL PANEL
SWITCH BOARD

NOTES:

1. SCHEMATIC REFERENCE: D10-064709-00.

3. REFER TO SCHEMATIC FOR EDGE CONNECTOR PIN OUT INFORMATION.

GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA *A TEKTRONIX COMPANY*

	CADNETIX	DRAWN AC DATE 13SEP89	COMPONENT LOCATION DIAGRAM
		ENGINEER JSB	CONTROL PANEL SWITCH BOARD
		CHECKED DATE	
DPM-100	064709	APPROVED JSB DATE	SIZE B DRAWING NO. 07-064709-00 C1
USED ON	NEXT ASSY	PILOT RUN RLSE JSB DATE 11-89	
APPLICATION		ENGRG RLSE DATE	SCALE: NONE SHEET 1 OF 1
DISTRIBUTION			

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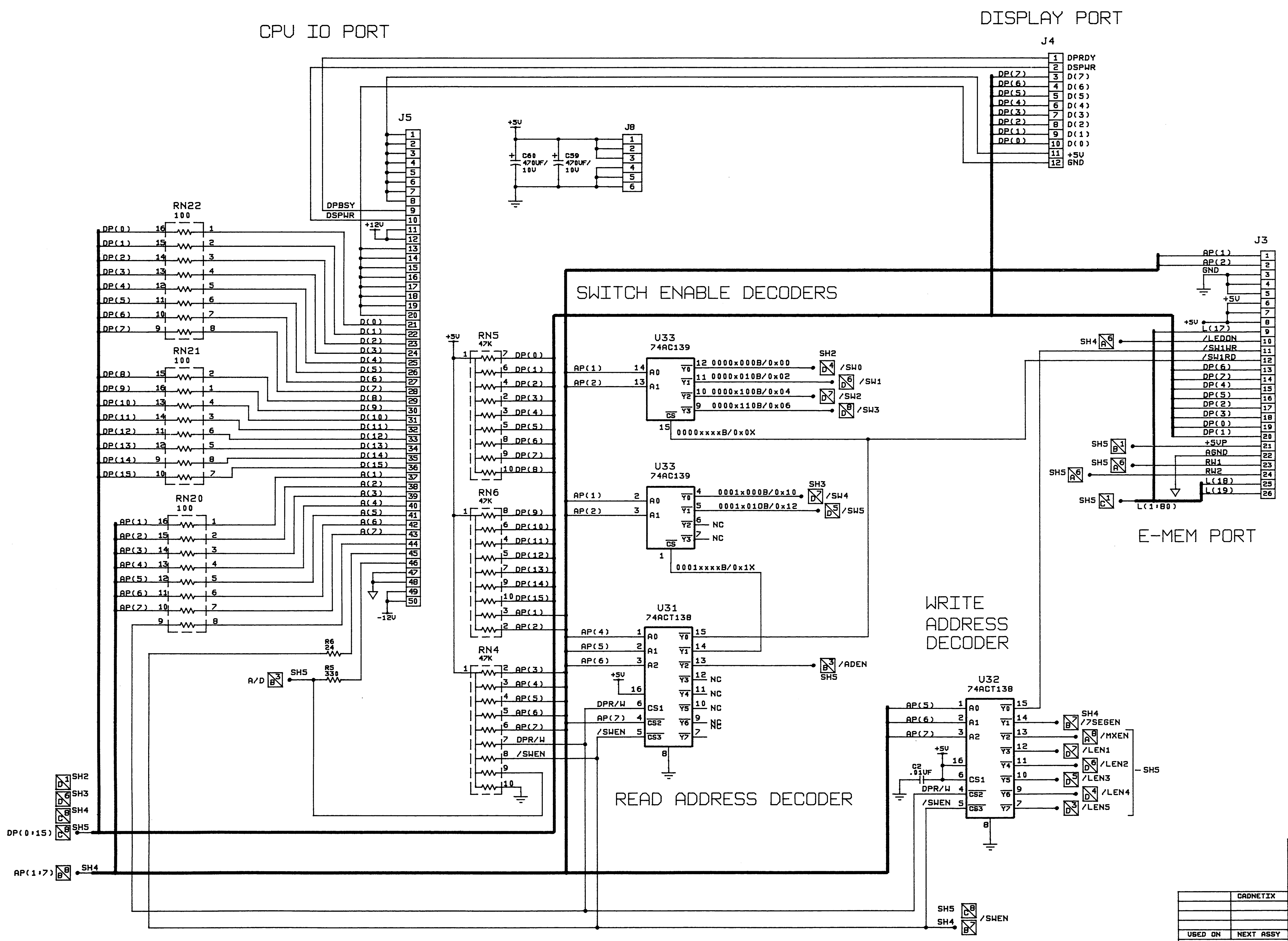
REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
A1	W419	RSB	8/89	——	——		——
PILOT RUN RELEASE							
A2	W454	RSB	1/90				——
DOC ONLY							
B1	W463	RSB	1/90				——
Q3-13 WERE MPS6507, NOW PN2222. RN40-42 WERE R22 OHM, NOW R100 OHM. C24,26-37,39,55-58,64,68,69,71,74,75 CHANGED FROM CB0318-00, TO CB0319-00.							
C1	W556	RSB	1/90				——
D97 WAS 1N4148, NOW 1N5711							



CPU IO PORT
DISPLAY PORT
J4
DPRDY
DSPWR
DP(7) D(7)
DP(6) D(6)
DP(5) D(5)
DP(4) D(4)
DP(3) D(3)
DP(2) D(2)
DP(1) D(1)
DP(0) D(0)
+5V
GND
J5
DPBSY
DSPWR
+12V
D(0) D(1) D(2) D(3) D(4) D(5) D(6) D(7) D(8) D(9) D(10) D(11) D(12) D(13) D(14) D(15)
A(1) A(2) A(3) A(4) A(5) A(6) A(7)
-12V
J8
+5V
C60 470UF/ 10V
C59 470UF/ 10V
RN22 100
RN21 100
RN20 100
DP(0) DP(1) DP(2) DP(3) DP(4) DP(5) DP(6) DP(7)
DP(8) DP(9) DP(10) DP(11) DP(12) DP(13) DP(14) DP(15)
AP(1) AP(2) AP(3) AP(4) AP(5) AP(6) AP(7)
R6 24
R5 330
A/D
SH5
RN5 47K
RN6 47K
RN4 47K
+5V
DPR/W
/SWEN
SWITCH ENABLE DECODERS
U33 74AC139
A0 A1 CS
Y0 Y1 Y2 Y3
0000x000B/0x00
0000x010B/0x02
0000x100B/0x04
0000x110B/0x06
0000xxxxB/0x0X
SH2
/SW0 /SW1 /SW2 /SW3
U33 74AC139
0001x000B/0x10
0001x010B/0x12
0001xxxxB/0x1X
SH3
/SW4 /SW5
NC
U31 74ACT138
A0 A1 A2 CS1 CS2 CS3
Y0 Y1 Y2 Y3 Y4 Y5 Y6 Y7
/ADEN
READ ADDRESS DECODER
WRITE ADDRESS DECODER
U32 74ACT138
C2 .01UF
/7SEGEN
/MXEN
/LEN1
/LEN2
/LEN3
/LEN4
/LEN5
SH4
SH5
J3
E-MEM PORT
AP(1) AP(2) GND
+5V
L(17)
/LEDON
/SW1WR
/SW1RD
DP(6) DP(7) DP(4) DP(5) DP(2) DP(3) DP(0) DP(1)
+5VP
AGND
RW1
RW2
L(18)
L(19)
L(1:80)
DP(0:15)
AP(1:7)
SH2 SH3 SH4 SH5
/SWEN

GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA A TEKTRONIX COMPANY

	CADNETIX	DRAWN JSB/KLF	DATE 7APR 89
		ENGINEER JSB	
		CHECKED	DATE
		APPROVED JSB	DATE
USED ON	NEXT ASSY	PILOT RUN RLSE JSB	DATE 11/89
APPLICATION		GMRS RLSE	DATE
DISTRIBUTION			

SCHEMATIC DIAGRAM
CONTROL PANEL SWITCH BD
SWITCH DECODERS & PORTS

SIZE D
DRAWING NO. 10-064709-00
C1
SCALE: NONE
SHEET 1 OF 6

D 10-064709-00 C1 2

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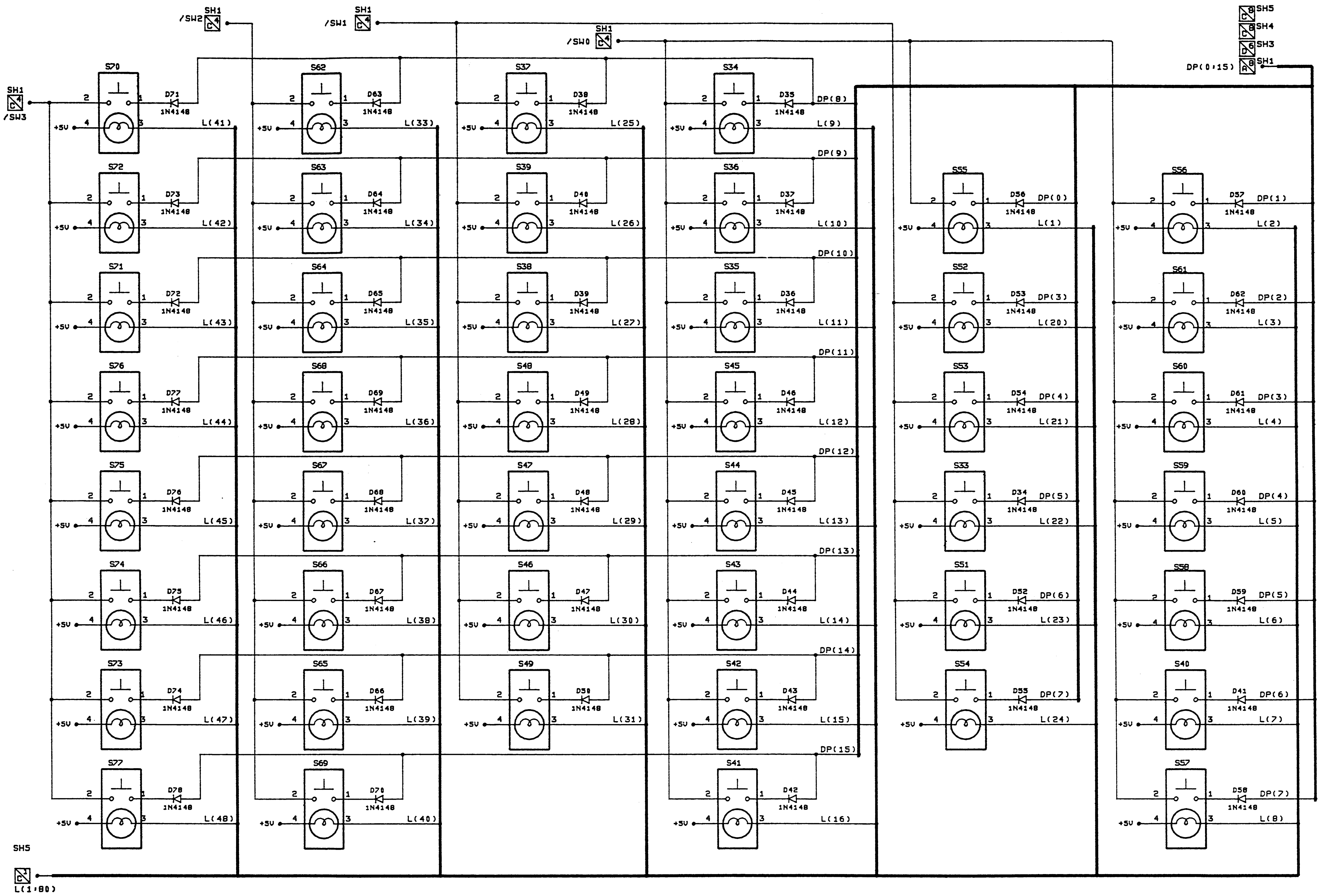
REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC

SEE SHEET 1


SH1
/SW3
SH1
/SW2
SH1
/SW1
SH1
/SW0
SH5
SH4
SH3
SH1
DP(0:15)
S70
D71
1N4148
L(41)
S72
D73
L(42)
S71
D72
L(43)
S76
D77
L(44)
S75
D76
L(45)
S74
D75
L(46)
S73
D74
L(47)
S77
D78
L(48)
S62
D63
L(33)
S63
D64
L(34)
S64
D65
L(35)
S68
D69
L(36)
S67
D68
L(37)
S66
D67
L(38)
S65
D66
L(39)
S69
D70
L(40)
S37
D38
L(25)
S39
D40
L(26)
S38
D39
L(27)
S48
D49
L(28)
S47
D48
L(29)
S46
D47
L(30)
S49
D50
L(31)
S34
D35
DP(8)
L(9)
S36
D37
DP(9)
L(10)
S35
D36
DP(10)
L(11)
S45
D46
DP(11)
L(12)
S44
D45
DP(12)
L(13)
S43
D44
DP(13)
L(14)
S42
D43
DP(14)
L(15)
S41
D42
DP(15)
L(16)
S55
D56
DP(0)
L(1)
S52
D53
DP(3)
L(20)
S53
D54
DP(4)
L(21)
S33
D34
DP(5)
L(22)
S51
D52
DP(6)
L(23)
S54
D55
DP(7)
L(24)
S56
D57
DP(1)
L(2)
S61
D62
DP(2)
L(3)
S60
D61
DP(3)
L(4)
S59
D60
DP(4)
L(5)
S58
D59
DP(5)
L(6)
S40
D41
DP(6)
L(7)
S57
D58
DP(7)
L(8)
+5V
1
2
3
4
SH5
L(1:80)

	CADNETIX
USED ON	NEXT ASSY
APPLICATION	
DISTRIBUTION	

GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA A TEKTRONIX COMPANY

DRAWN JSB/KLF DATE 7APR 89
ENGINEER JSB
CHECKED DATE
APPROVED DATE JSB
PILOT RUN RLSE DATE JSB 11/89
DWNG RLSE DATE

SCHEMATIC DIAGRAM
CONTROL PANEL SWITCH BD
SWITCH MATRIX

SIZE D DRAWING NO. 10-064709-00 C1
SCALE: NONE SHEET 2 OF 6

D 10-064709-00 C1 3

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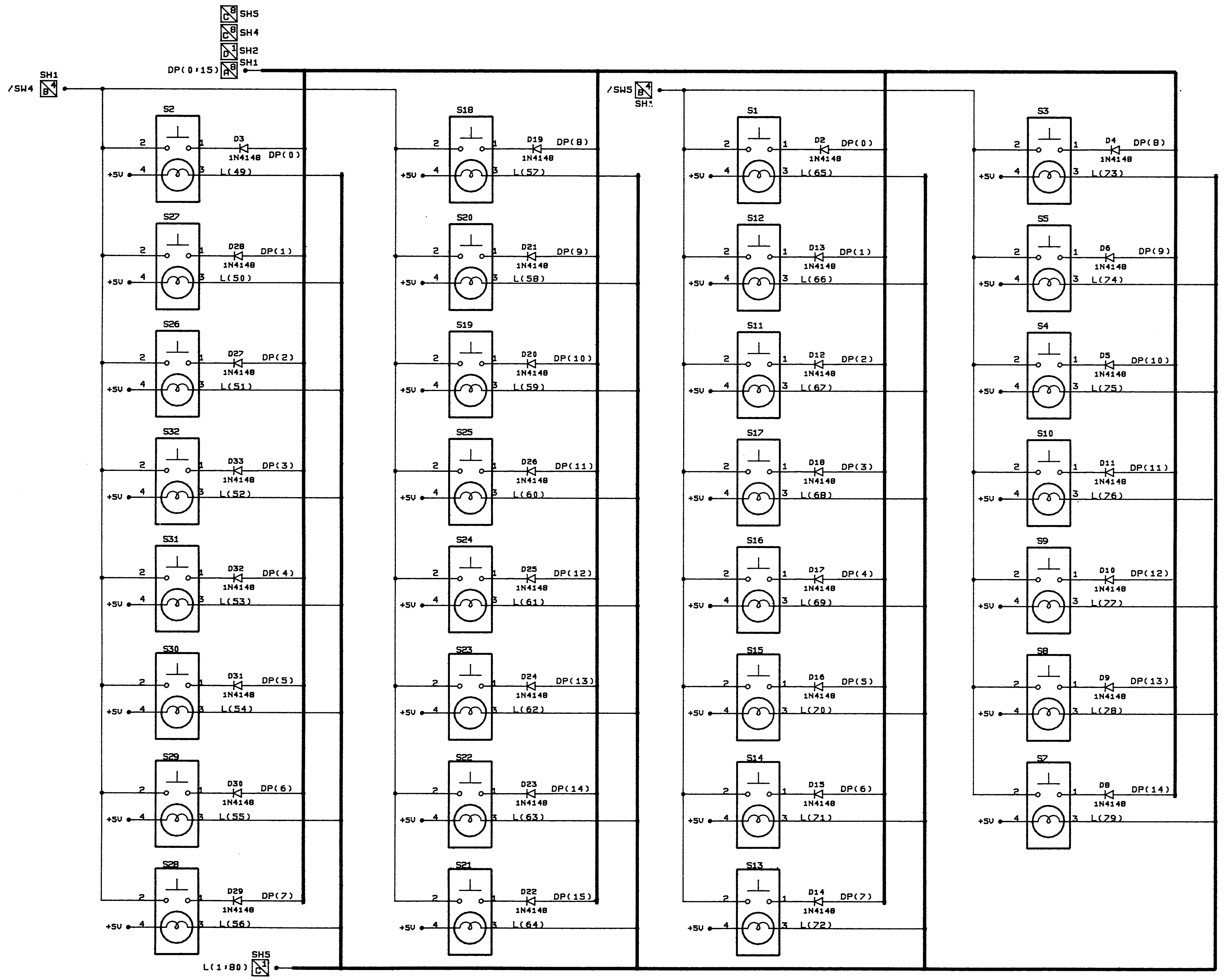
REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC

SEE SHEET 1



SH5
SH4
SH2
SH1
DP(0:15)
/SW4
/SW5
S2 D3 1N4148 DP(0) L(49)
S27 D28 1N4148 DP(1) L(50)
S26 D27 1N4148 DP(2) L(51)
S32 D33 1N4148 DP(3) L(52)
S31 D32 1N4148 DP(4) L(53)
S30 D31 1N4148 DP(5) L(54)
S29 D30 1N4148 DP(6) L(55)
S28 D29 1N4148 DP(7) L(56)
S18 D19 1N4148 DP(8) L(57)
S20 D21 1N4148 DP(9) L(58)
S19 D20 1N4148 DP(10) L(59)
S25 D26 1N4148 DP(11) L(60)
S24 D25 1N4148 DP(12) L(61)
S23 D24 1N4148 DP(13) L(62)
S22 D23 1N4148 DP(14) L(63)
S21 D22 1N4148 DP(15) L(64)
S1 D2 1N4148 DP(0) L(65)
S12 D13 1N4148 DP(1) L(66)
S11 D12 1N4148 DP(2) L(67)
S17 D18 1N4148 DP(3) L(68)
S16 D17 1N4148 DP(4) L(69)
S15 D16 1N4148 DP(5) L(70)
S14 D15 1N4148 DP(6) L(71)
S13 D14 1N4148 DP(7) L(72)
S3 D4 1N4148 DP(8) L(73)
S5 D6 1N4148 DP(9) L(74)
S4 D5 1N4148 DP(10) L(75)
S10 D11 1N4148 DP(11) L(76)
S9 D10 1N4148 DP(12) L(77)
S8 D9 1N4148 DP(13) L(78)
S7 D8 1N4148 DP(14) L(79)
+5V
2
4
1
3
L(1:80)

GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA *A TEKTRONIX COMPANY*

DRAWN	JSB/KLF
DATE	7APR 89
ENGINEER	JSB
CHECKED	
DATE	
APPROVED	JSB
DATE	
PILOT RUN RLSE	JSB
DATE	11/89
PROD RLSE	
DATE	

SCHEMATIC DIAGRAM
CONTROL PANEL SWITCH BD
SWITCH MATRIX

SIZE	DRAWING NO.	
D	10-064709-00	C1
SCALE: NONE	SHEET 3 OF 6	

	CADNETIX
USED ON	NEXT ASSY
APPLICATION	
DISTRIBUTION	

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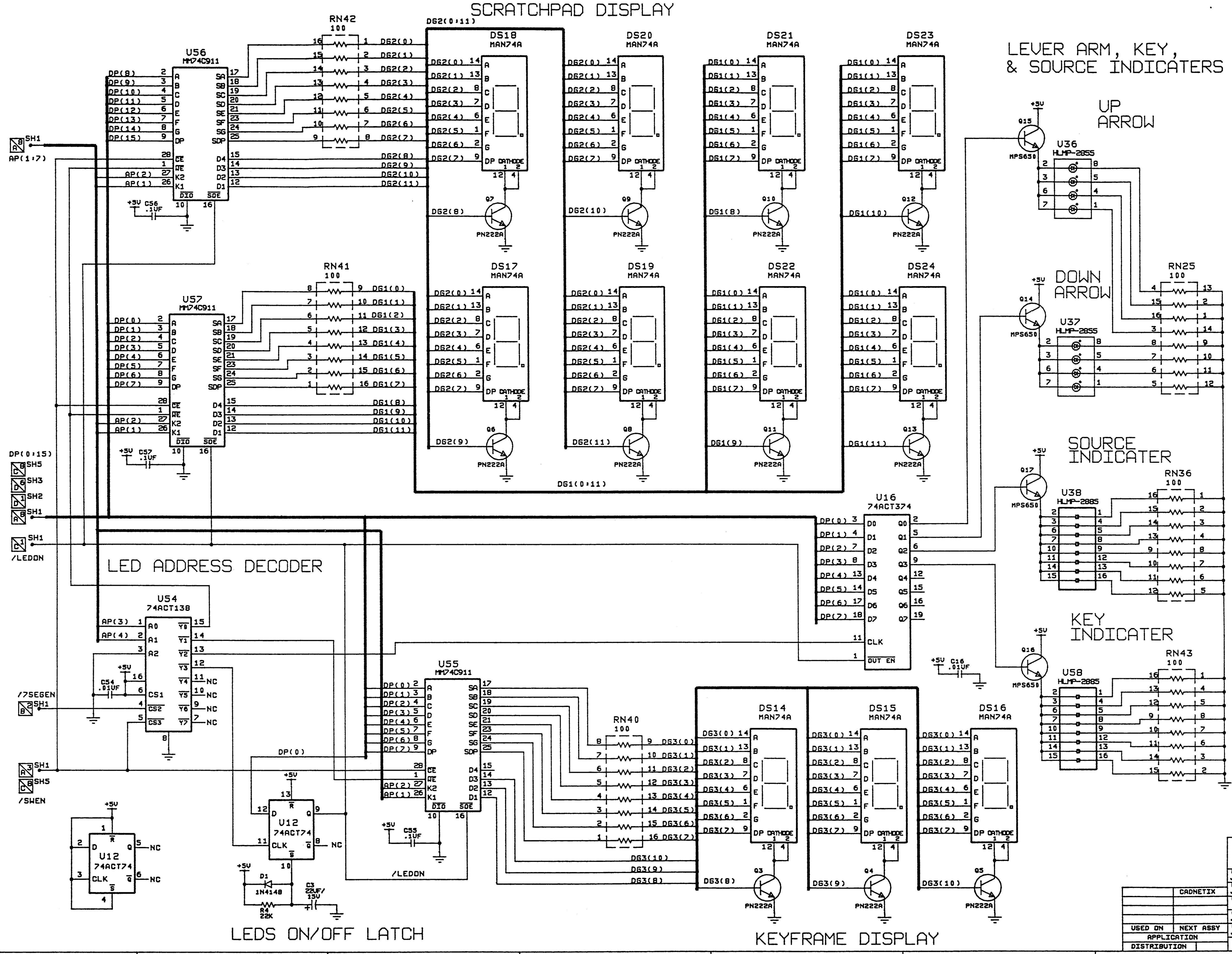
REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC

SEE SHEET 1


SCRATCHPAD DISPLAY
LEVER ARM, KEY, & SOURCE INDICATERS
UP ARROW
DOWN ARROW
SOURCE INDICATER
KEY INDICATER
LED ADDRESS DECODER
LEDS ON/OFF LATCH
KEYFRAME DISPLAY
U56 MM74C911
U57 MM74C911
U55 MM74C911
U54 74ACT138
U16 74ACT374
U12 74ACT74
U36 HLMP-2855
U37 HLMP-2855
U38 HLMP-2885
U58 HLMP-2885
RN42 100
RN41 100
RN40 100
RN25 100
RN36 100
RN43 100
DS18 MAN74A
DS20 MAN74A
DS21 MAN74A
DS23 MAN74A
DS17 MAN74A
DS19 MAN74A
DS22 MAN74A
DS24 MAN74A
DS14 MAN74A
DS15 MAN74A
DS16 MAN74A
Q7 PN222A
Q9 PN222A
Q10 PN222A
Q12 PN222A
Q6 PN222A
Q8 PN222A
Q11 PN222A
Q13 PN222A
Q3 PN222A
Q4 PN222A
Q5 PN222A
Q15 MPS650
Q14 MPS650
Q17 MPS650
Q16 MPS650
C56 .1UF
C57 .1UF
C54 .01UF
C55 .1UF
C16 .01UF
C3 22UF/15V
D1 1N4148
R4 22K
+5V
AP(1:7)
DP(0:15)
DG2(0:11)
DG1(0:11)
/LEDON
/75EGEN
/SWEN
SH1
SH2
SH3
SH5
DP CATHODE
NC

CADNETIX

USED ON	NEXT ASSY
APPLICATION	
DISTRIBUTION	

GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA A TEKTRONIX COMPANY

DRAWN JSB/KLF DATE 7APR 89
ENGINEER JSB
CHECKED DATE
APPROVED JSB DATE
PILOT RUN RLSE JSB DATE 11/89
GRAND RLSE DATE

SCHEMATIC DIAGRAM
CONTROL PANEL SWITCH BD
SCRATCHPAD & KEYFRAME DISPLAY

SIZE D DRAWING NO. 10-064709-00 C1
SCALE: NONE SHEET 4 OF 6

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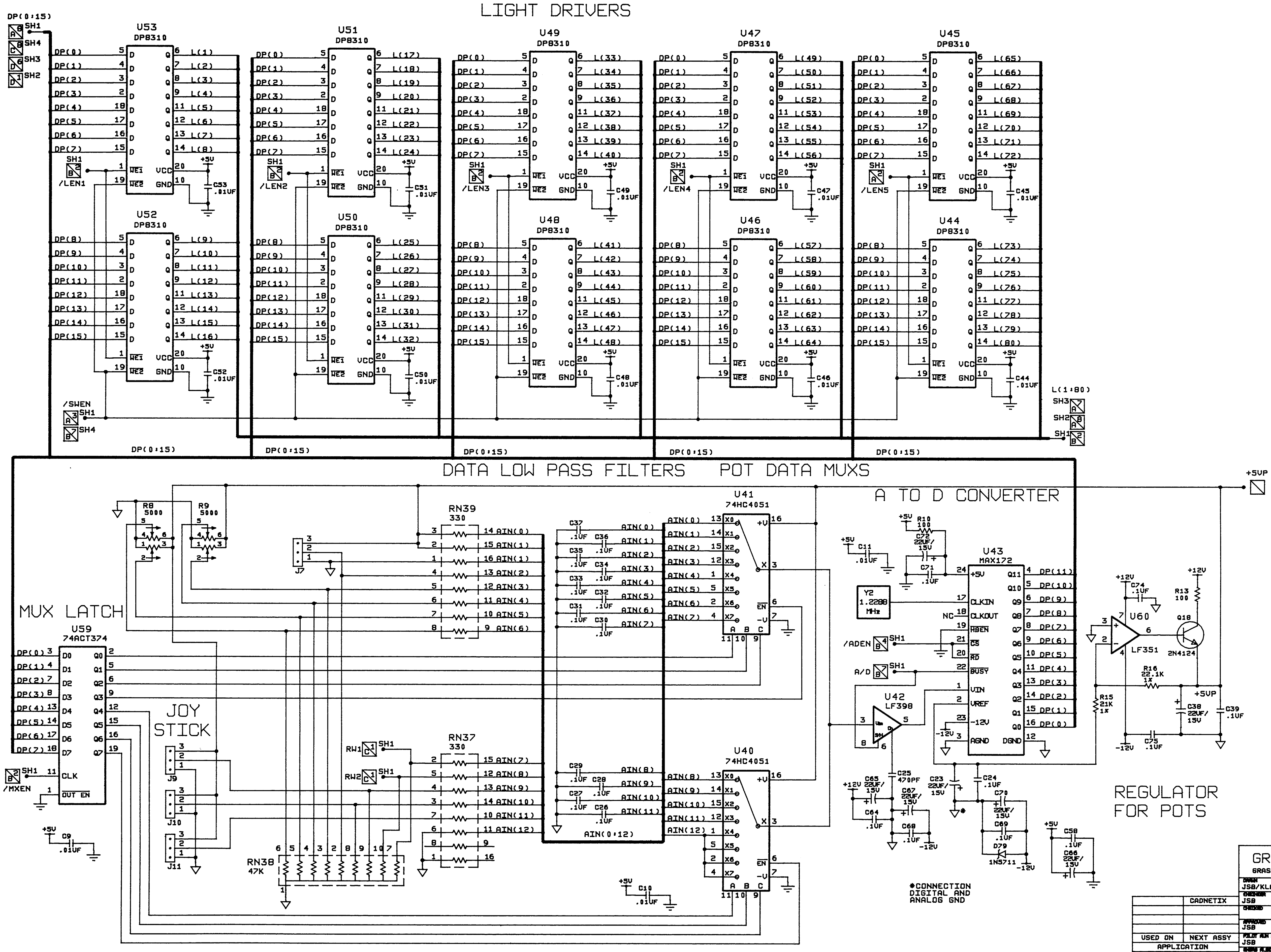
REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC

SEE SHEET 1


LIGHT DRIVERS
U53 DP8310
U52 DP8310
U51 DP8310
U50 DP8310
U49 DP8310
U48 DP8310
U47 DP8310
U46 DP8310
U45 DP8310
U44 DP8310
DP(0:15)
/LEN1
/LEN2
/LEN3
/LEN4
/LEN5
/SWEN
L(1:80)
DATA LOW PASS FILTERS
POT DATA MUXS
A TO D CONVERTER
MUX LATCH
U59 74ACT374
/MXEN
JOY STICK
J7
J9
J10
J11
R8 5000
R9 5000
RN39 330
RN37 330
RN38 47K
U41 74HC4051
U40 74HC4051
AIN(0:12)
U43 MAX172
Y2 1.2288 MHz
/ADEN
A/D
U42 LF398
U60 LF351
Q18 2N4124
R13 100
R15 21K 1%
R16 22.1K 1%
+5VP
REGULATOR FOR POTS
*CONNECTION DIGITAL AND ANALOG GND

GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA A TEKTRONIX COMPANY

	CADNETIX
USED ON	NEXT ASSY
APPLICATION	
DISTRIBUTION	

DRAWN JSB/KLF DATE 7APR 89
ENGINEER JSB
CHECKED DATE
APPROVED JSB DATE
PILOT RUN RLSE JSB DATE 11/89
ENGRG RLSE DATE

SCHEMATIC DIAGRAM
CONTROL PANEL SWITCH BD
FILTERS & LIGHT DRIVERS

SIZE D DRAWING NO. 10-064709-00 C1
SCALE: NONE SHEET 5 OF 6

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REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC

SEE SHEET 1

Net name to page:

+12V	1,5	+5V	1,2,3,4,5	+5VP	1,5	-12V	1,5
/7SEGEN	1,4	/ADEN	1,5	/LEDON	1,4	/LEN1	1,5
/LEN2	1,5	/LEN3	1,5	/LEN4	1,5	/LEN5	1,5
/MXEN	1,5	/SW0	1,2	/SW1	1,2	/SW1RD	1
/SW1WR	1	/SW2	1,2	/SW3	1,2	/SW4	1,3
/SW5	1,3	/SWEN	1,4,5	A(1)	1	A(2)	1
A(3)	1	A(4)	1	A(5)	1	A(6)	1
A(7)	1	A/D	1,5	AGND	1,5	AIN(0)	5
AIN(1)	5	AIN(10)	5	AIN(11)	5	AIN(12)	5
AIN(2)	5	AIN(3)	5	AIN(4)	5	AIN(5)	5
AIN(6)	5	AIN(7)	5	AIN(8)	5	AIN(9)	5
AP(1)	1,4	AP(2)	1,4	AP(3)	1,4	AP(4)	1,4
AP(5)	1	AP(6)	1	AP(7)	1	D(0)	1
D(1)	1	D(10)	1	D(11)	1	D(12)	1
D(13)	1	D(14)	1	D(15)	1	D(2)	1
D(3)	1	D(4)	1	D(5)	1	D(6)	1
D(7)	1	D(8)	1	D(9)	1	DG1(0)	4
DG1(1)	4	DG1(10)	4	DG1(11)	4	DG1(2)	4
DG1(3)	4	DG1(4)	4	DG1(5)	4	DG1(6)	4
DG1(7)	4	DG1(8)	4	DG1(9)	4	DG2(0)	4
DG2(1)	4	DG2(10)	4	DG2(11)	4	DG2(2)	4
DG2(3)	4	DG2(4)	4	DG2(5)	4	DG2(6)	4
DG2(7)	4	DG2(8)	4	DG2(9)	4	DG3(0)	4
DG3(1)	4	DG3(10)	4	DG3(2)	4	DG3(3)	4
DG3(4)	4	DG3(5)	4	DG3(6)	4	DG3(7)	4
DG3(8)	4	DG3(9)	4	DP(0)	1,2,3,4,5	DP(1)	1,2,3,4,5
DP(10)	1,2,3,4,5	DP(11)	1,2,3,4,5	DP(12)	1,2,3,4,5	DP(13)	1,2,3,4,5
DP(14)	1,2,3,4,5	DP(15)	1,2,3,4,5	DP(2)	1,2,3,4,5	DP(3)	1,2,3,4,5
DP(4)	1,2,3,4,5	DP(5)	1,2,3,4,5	DP(6)	1,2,3,4,5	DP(7)	1,2,3,4,5
DP(8)	1,2,3,4,5	DP(9)	1,2,3,4,5	DPBSY	1	DPR/W	1
DSPWR	1	GND	1,4,5,6	L(1)	2,5	L(10)	2,5
L(11)	2,5	L(12)	2,5	L(13)	2,5	L(14)	2,5
L(15)	2,5	L(16)	2,5	L(17)	1,5	L(18)	1,5
L(19)	1,5	L(2)	2,5	L(20)	2,5	L(21)	2,5
L(22)	2,5	L(23)	2,5	L(24)	2,5	L(25)	2,5
L(26)	2,5	L(27)	2,5	L(28)	2,5	L(29)	2,5
L(3)	2,5	L(30)	2,5	L(31)	2,5	L(32)	5
L(33)	2,5	L(34)	2,5	L(35)	2,5	L(36)	2,5
L(37)	2,5	L(38)	2,5	L(39)	2,5	L(4)	2,5
L(40)	2,5	L(41)	2,5	L(42)	2,5	L(43)	2,5
L(44)	2,5	L(45)	2,5	L(46)	2,5	L(47)	2,5
L(48)	2,5	L(49)	3,5	L(5)	2,5	L(50)	3,5
L(51)	3,5	L(52)	3,5	L(53)	3,5	L(54)	3,5
L(55)	3,5	L(56)	3,5	L(57)	3,5	L(58)	3,5
L(59)	3,5	L(6)	2,5	L(60)	3,5	L(61)	3,5

Sep 27 09:32 1989 Cadnetix cross-reference list. Page 2

L(62)	3,5	L(63)	3,5	L(64)	3,5	L(65)	3,5
L(66)	3,5	L(67)	3,5	L(68)	3,5	L(69)	3,5
L(7)	2,5	L(70)	3,5	L(71)	3,5	L(72)	3,5
L(73)	3,5	L(74)	3,5	L(75)	3,5	L(76)	3,5
L(77)	3,5	L(78)	3,5	L(79)	3,5	L(8)	2,5
L(80)	5	L(9)	2,5	RW1	1,5	RW2	1,5

Sep 27 09:32 1989 Cadnetix cross-reference list. Page 3

Reference Designator to page:

C2	1	C3	4	C9	5	C10	5	C11	5	C16	4	C23	5
C24	5	C25	5	C26	5	C27	5	C28	5	C29	5	C30	5
C31	5	C32	5	C33	5	C34	5	C35	5	C36	5	C37	5
C38	5	C39	5	C44	5	C45	5	C46	5	C47	5	C48	5
C49	5	C50	5	C51	5	C52	5	C53	5	C54	4	C55	4
C56	4	C57	4	C58	5	C59	1	C60	1	C64	5	C65	5
C66	5	C67	5	C68	5	C69	5	C70	5	C71	5	C72	5
C74	5	C75	5	D1	4	D2	3	D3	3	D4	3	D5	3
D6	3	D8	3	D9	3	D10	3	D11	3	D12	3	D13	3
D14	3	D15	3	D16	3	D17	3	D18	3	D19	3	D20	3
D21	3	D22	3	D23	3	D24	3	D25	3	D26	3	D27	3
D28	3	D29	3	D30	3	D31	3	D32	3	D33	3	D34	2
D35	2	D36	2	D37	2	D38	2	D39	2	D40	2	D41	2
D42	2	D43	2	D44	2	D45	2	D46	2	D47	2	D48	2
D49	2	D50	2	D52	2	D53	2	D54	2	D55	2	D56	2
D57	2	D58	2	D59	2	D60	2	D61	2	D62	2	D63	2
D64	2	D65	2	D66	2	D67	2	D68	2	D69	2	D70	2
D71	2	D72	2	D73	2	D74	2	D75	2	D76	2	D77	2
D78	2	D79	5	DS14	4	DS15	4	DS16	4	DS17	4	DS18	4
DS19	4	DS20	4	DS21	4	DS22	4	DS23	4	DS24	4	J3	1
J4	1	J5	1	J7	5	J8	1	J9	5	J10	5	J11	5
MH16	6	Q3	4	Q4	4	Q5	4	Q6	4	Q7	4	Q8	4
Q9	4	Q10	4	Q11	4	Q12	4	Q13	4	Q14	4	Q15	4
Q16	4	Q17	4	Q18	5	R4	4	R5	1	R6	1	R8	5
R9	5	R10	5	R13	5	R15	5	R16	5	RN4	1	RN5	1
RN6	1	RN20	1	RN21	1	RN22	1	RN25	4	RN36	4	RN37	5
RN38	5	RN39	5	RN40	4	RN41	4	RN42	4	RN43	4	S1	3
S2	3	S3	3	S4	3	S5	3	S7	3	S8	3	S9	3
S10	3	S11	3	S12	3	S13	3	S14	3	S15	3	S16	3
S17	3	S18	3	S19	3	S20	3	S21	3	S22	3	S23	3
S24	3	S25	3	S26	3	S27	3	S28	3	S29	3	S30	3
S31	3	S32	3	S33	2	S34	2	S35	2	S36	2	S37	2
S38	2	S39	2	S40	2	S41	2	S42	2	S43	2	S44	2
S45	2	S46	2	S47	2	S48	2	S49	2	S51	2	S52	2
S53	2	S54	2	S55	2	S56	2	S57	2	S58	2	S59	2
S60	2	S61	2	S62	2	S63	2	S64	2	S65	2	S66	2
S67	2	S68	2	S69	2	S70	2	S71	2	S72	2	S73	2
S74	2	S75	2	S76	2	S77	2	U12	4	U16	4	U31	1
U32	1	U33	1	U36	4	U37	4	U38	4	U40	5	U41	5
U42	5	U43	5	U44	5	U45	5	U46	5	U47	5	U48	5
U49	5	U50	5	U51	5	U52	5	U53	5	U54	4	U55	4
U56	4	U57	4	U58	4	U59	5	U60	5	Y2	5		

	CADNETIX
USED ON	NEXT ASSY
APPLICATION	
DISTRIBUTION	

GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA A TEKTRONIX COMPANY

DRAWN JSB/KLF	DATE 7APR 89
ENGINEER JSB	
CHECKED	DATE
APPROVED JSB	DATE
PILOT RUN RLSE JSB	DATE 11/89
PROD RLSE	DATE

SCHEMATIC DIAGRAM
CONTROL PANEL SWITCH BD
CROSS REFERENCE

SIZE D DRAWING NO. 10-064709-00 C1
SCALE: NONE SHEET 6 OF 6

SIZE B | DWG NO. 07/08-064710-00 | REV C1 | SH 1

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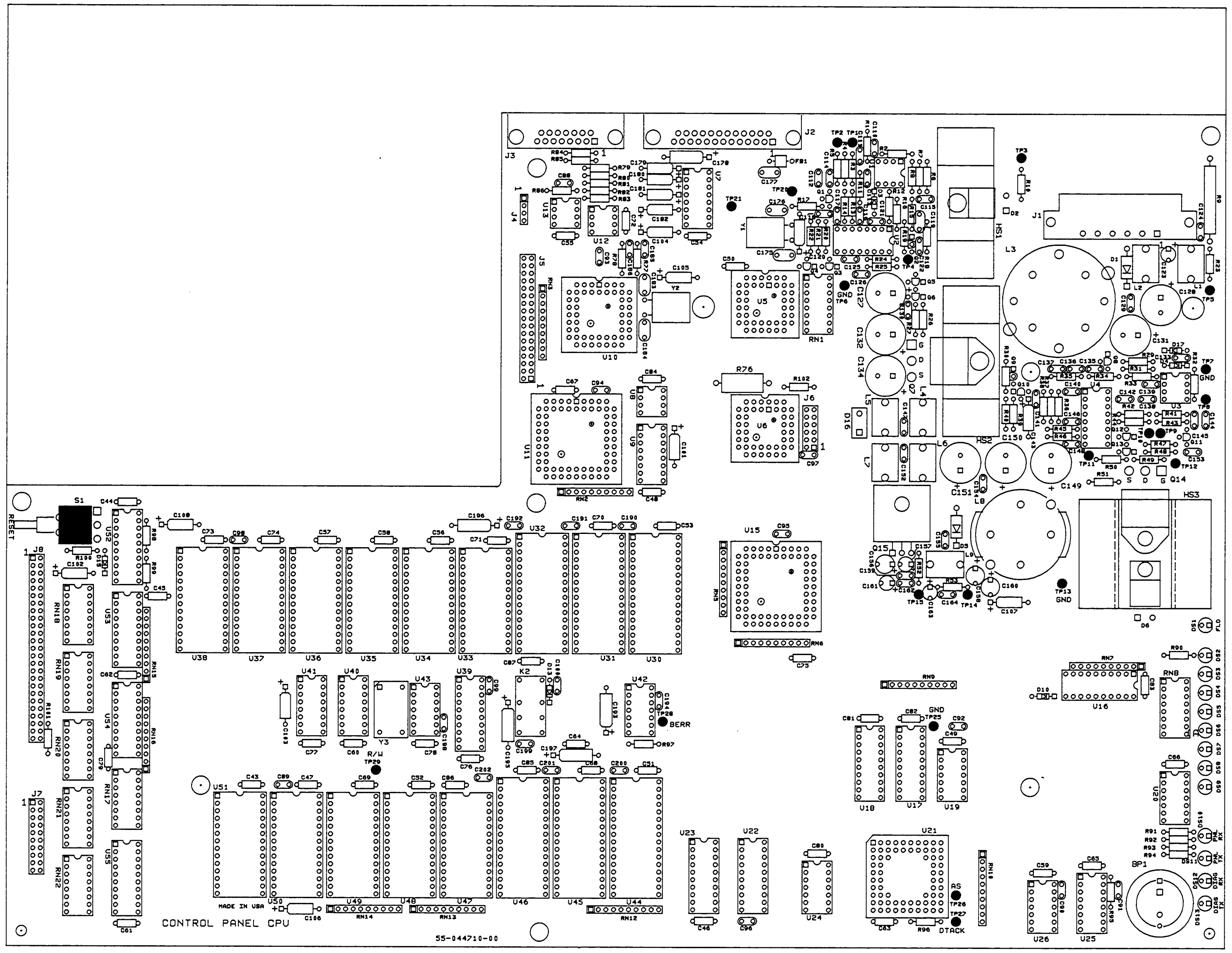
REVISIONS

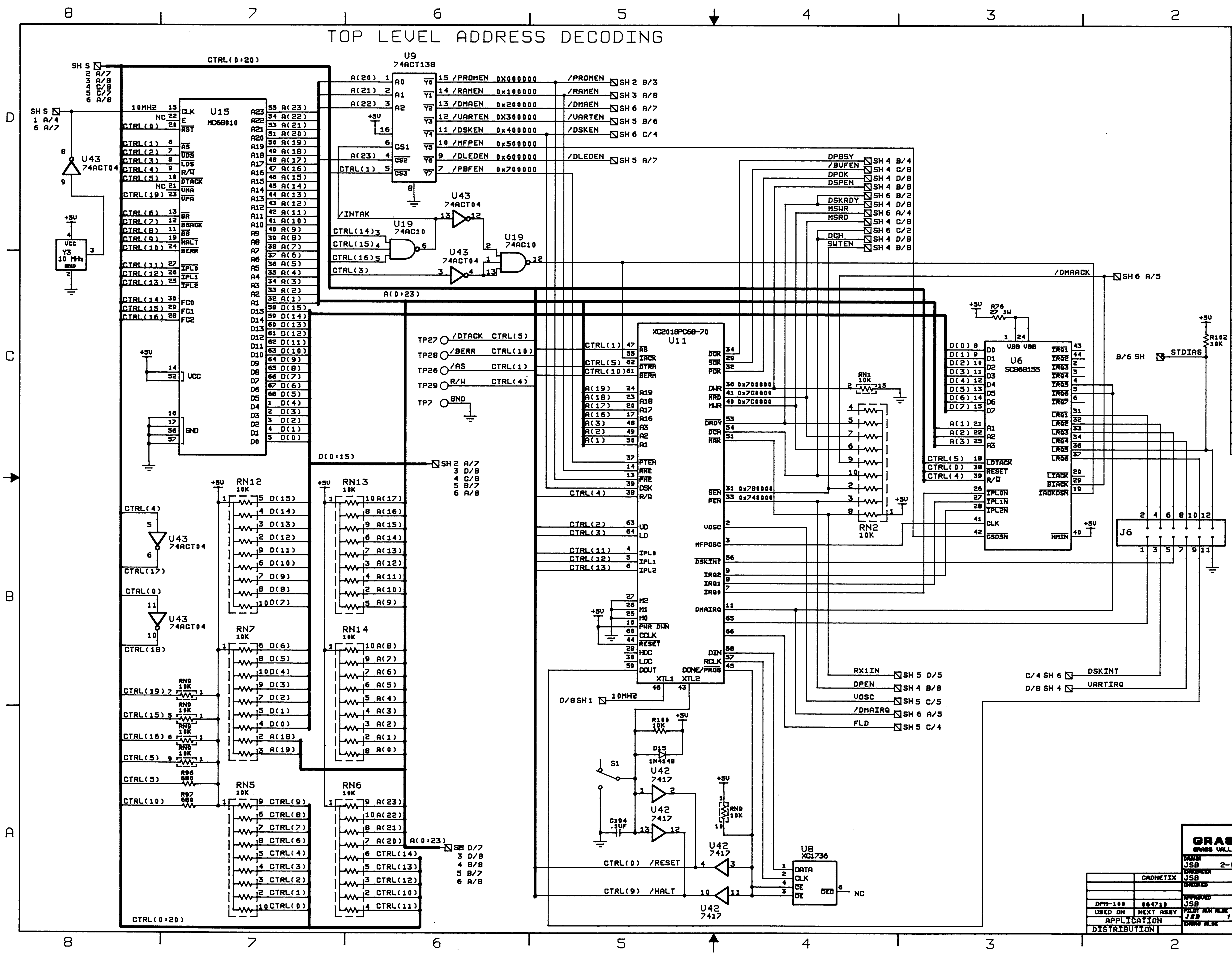
REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
A1	W420	RSB	1/90				—
PILOT RUN RELEASE							
A2	W455	RSB	1/90				—
DOC ONLY							
B1	W464	RSB	1/90				—
C88-100,110,114,117,118,121,124,126,129,130,138,141,142,145,147,148,152-155,159 164,190-192,194,199,200-202.							
B2	W534	RSB	1/90				—
DOC ONLY							
C1	W599	RSB	1/90				—
R21 AND R30 WERE 10K, NOW 390 OHM. GND MNTNG SCREW ON J3							


J3
J2
J1
J4
J5
J6
J7
J8
S1
RESET
U10
U11
U5
U6
U15
U21
U38
U37
U36
U35
U34
U33
U32
U31
U30
U51
U49
U48
U47
U46
U45
U44
U16
U17
U18
U19
U22
U23
U24
U25
U26
HS1
HS2
HS3
L3
BP1
R/W
BERR
DTACK
AS
GND
MADE IN USA
CONTROL PANEL CPU
55-044710-00

GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA *A TEKTRONIX COMPANY*

	CADNETIX	DRAWN AC DATE 13SEP89	COMPONENT/ADJUSTMENT LOCATION
		ENGINEER JSB	CONTROL PANEL PROCESSOR
		CHECKED DATE	
		APPROVED JSB DATE	SIZE B DRAWING NO. 07/08-064710-00 C1
USED ON	NEXT ASSY	PILOT RUN RLSE JSB DATE 11/89	
APPLICATION		ENGRG RLSE DATE	SCALE: NONE SHEET 1 OF 1
DISTRIBUTION			

TOP LEVEL ADDRESS DECODING


U15
MC68010
U9
74ACT138
U19
74AC10
U43
74ACT04
U11
XC2018PC68-70
U6
SCB68155
U42
7417
U8
XC1736
Y3
10 MHz
RN12
RN13
RN7
RN14
RN5
RN6
RN2
RN1
R76
R102
R100
D13
1N4148
S1
C104
J6
CTRL(0:20)
A(0:23)
D(0:15)
10MHZ
/PROMEN 0X000000
/RAMEN 0x100000
/DMAEN 0x200000
/UARTEN 0X300000
/DSKEN 0x400000
/MFPEN 0x500000
/DLEDEN 0x600000
/PBFEN 0x700000
/INTAK
/DTACK
/BERR
/AS
R/W
GND
TP27
TP28
TP26
TP29
TP7
DPBSY
/BUFEN
DPOK
DSPEN
DSKRDY
MSWR
MSRD
DCH
SWTEN
/DMAACK
STDIAG
RX1IN
DPEN
VDSC
/DMAIRQ
FLD
DSKINT
UARTIRQ
/RESET
/HALT
NC
+5V

REVISIONS							
REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
A1	W420	RSB	9-89	——	——		——
PILOT RUN RELEASE							
A2	W455	RSB	1-90	——	JB		——
DOC ONLY							
B1	W464	RSB	1-90	——	JB		——
C88-100,110,114,117,118,121,124, C126,129,130,138,141,142,145,147, C148,152-155,159,164,190,194,199, C200,201,202 WERE CB0318-00, NOW CB0319-00							
B2	W534	RSB	1/90	——	JB		——
DOC ONLY							
C1	W599	RSB	1/90	——	JB		——
R1 AND R30 WERE 10K NOW 390ohms. GROUND MOUNTING SCREW ON J3.							
D1	W613	PLUM	2/91	——			——
ISSUE UPDATE							
E1	W645	PLUM	2/91	——			
SH6:C185 WAS CB0116-00 SH7:C137 WAS CB0116-00,C140 WAS CB0127-00,C136 WAS CB0110-00,C133 WAS CB0127-00,C146 WAS CB0108-00, C135 WAS CB0106-00. SH8:C116 WAS CB0108-00,C125 WAS CB0106-00,C111&C113&C115 WAS CB0127-00.							
F1	W826	PLUM	2/91	——			——
SH8:C156 WAS 150uf/16V CB4041-00. C161 WAS 22uf/16V CB4043-00.							
H1	W837	PLUM	2/91	——			——
SH8: C156 AND C161 WERE 6.8uf/35V CB4009-00.							
J1	W939	PLUM	2/91	——			——
SH7: C139 WAS CB0112-00. SH8: C122 WAS CB0112-00.							
K1	Z019	PLUM	2/91	——			——
ISSUE UPDATE ONLY.							
L1	Z129	PLUM	2/91	——			——
SH6: R95 WAS 180ohms.							
M1	Z208	PLUM	2/91	——		3.91	——
ISSUE UPDATE ONLY.							

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GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA
A TEKTRONIX COMPANY

SCHEMATIC DIAGRAM
CONTROL PAN PROCESSOR
CPU

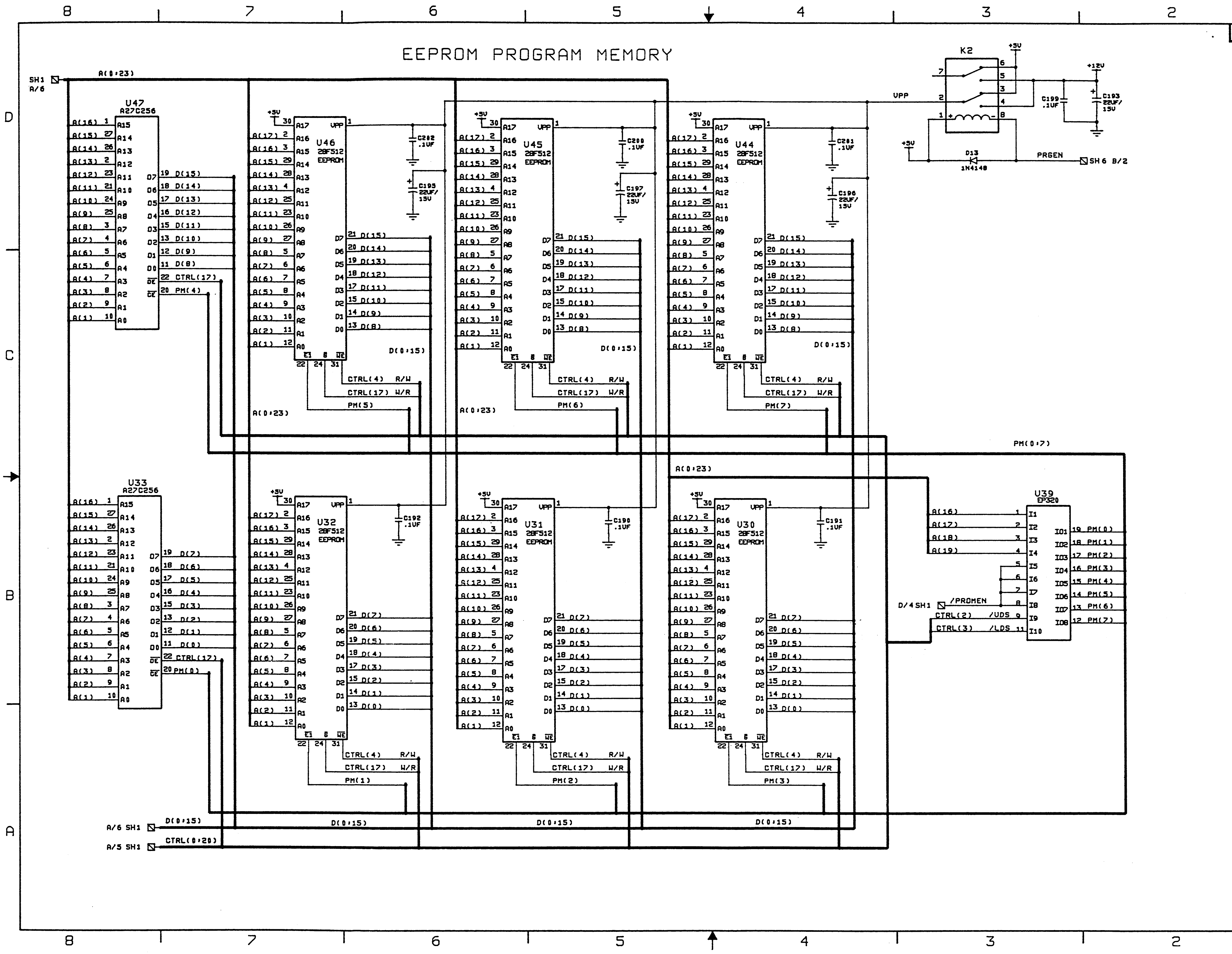
	CADNETIX	DRAWN JSB	DATE 2-9-89
		ENGINEER JSB	
		CHECKED	DATE
DPM-100	064710	APPROVED JSB	DATE
USED ON	NEXT ASSY	PILOT RUN RLSE JSB	DATE 11/89
APPLICATION		CHANG RLSE	DATE
DISTRIBUTION			

SIZE D DRAWING NO. 10-064710-00 REV M1

SCALE: NONE SHEET 1 OF 9

SEE SHEET ONE FOR REVISIONS

EEPROM PROGRAM MEMORY



SH1 A/6
A(0:23)
U47 A27C256
U33 A27C256
U46 28F512 EEPROM
U45 28F512 EEPROM
U44 28F512 EEPROM
U32 28F512 EEPROM
U31 28F512 EEPROM
U30 28F512 EEPROM
U39 EP320
K2
+5V
+12V
VPP
C199 .1UF
C193 22UF/ 15V
C202 .1UF
C195 22UF/ 15V
C200 .1UF
C197 22UF/ 15V
C201 .1UF
C196 22UF/ 15V
C192 .1UF
C190 .1UF
C191 .1UF
D13 1N4148
PRGEN
SH6 B/2
D(15) D(14) D(13) D(12) D(11) D(10) D(9) D(8)
D(7) D(6) D(5) D(4) D(3) D(2) D(1) D(0)
CTRL(17)
PM(4)
PM(0)
CTRL(4) R/W
CTRL(17) W/R
PM(5)
PM(6)
PM(7)
PM(1)
PM(2)
PM(3)
D(0:15)
PM(0:7)
A(16) A(17) A(18) A(19)
D/4 SH1
/PROMEN
CTRL(2) /UDS
CTRL(3) /LDS
A/6 SH1
A/5 SH1
CTRL(0:20)
8
7
6
5
4
3
2
1
D
C
B
A

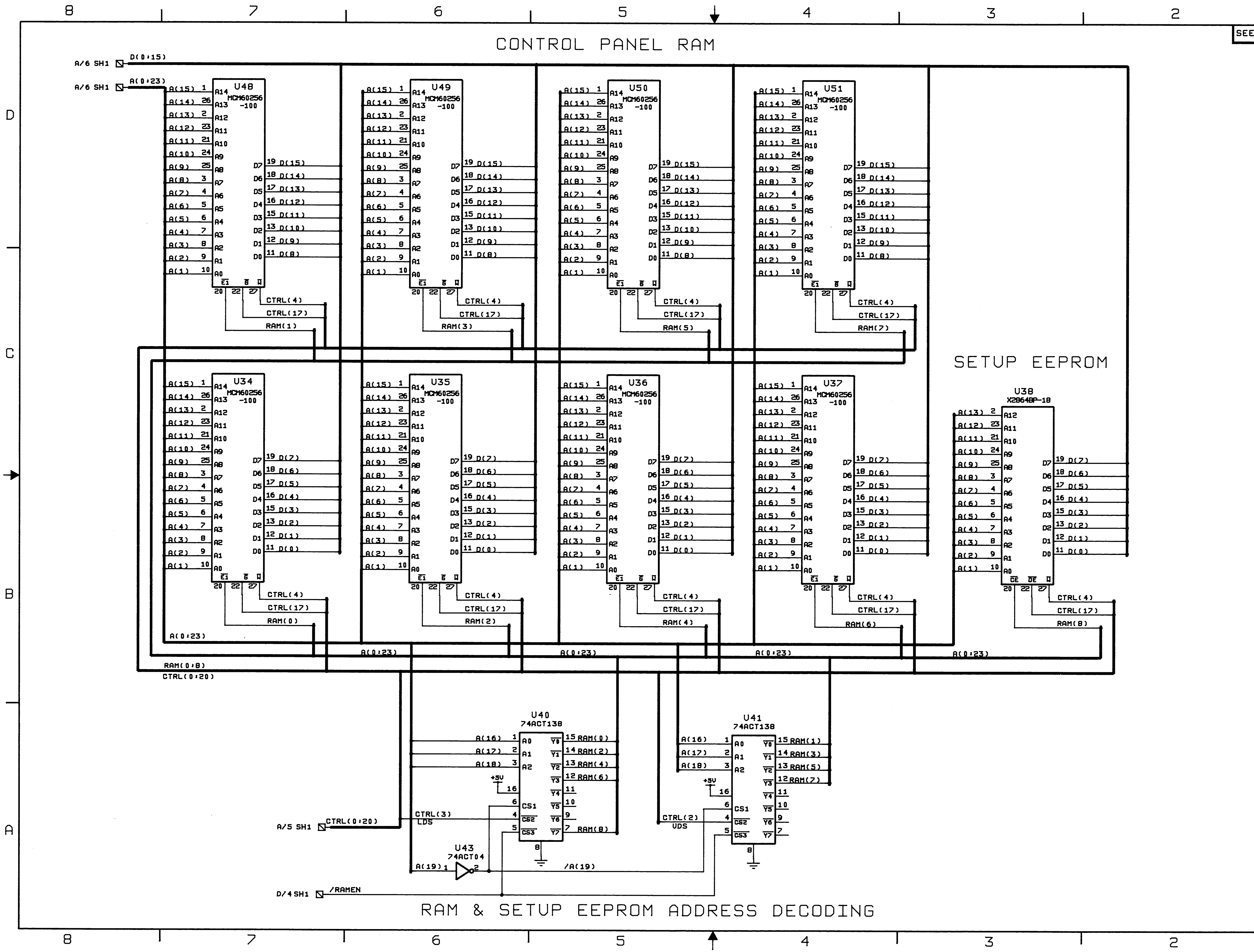
GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
CONTROL PANEL PROCESSOR
EPROM

SIZE	DRAWING NO.	REV
D	10-064710-00	M1

SCALE: NONE SHEET 2 OF 9

SEE SHEET ONE FOR REVISIONS

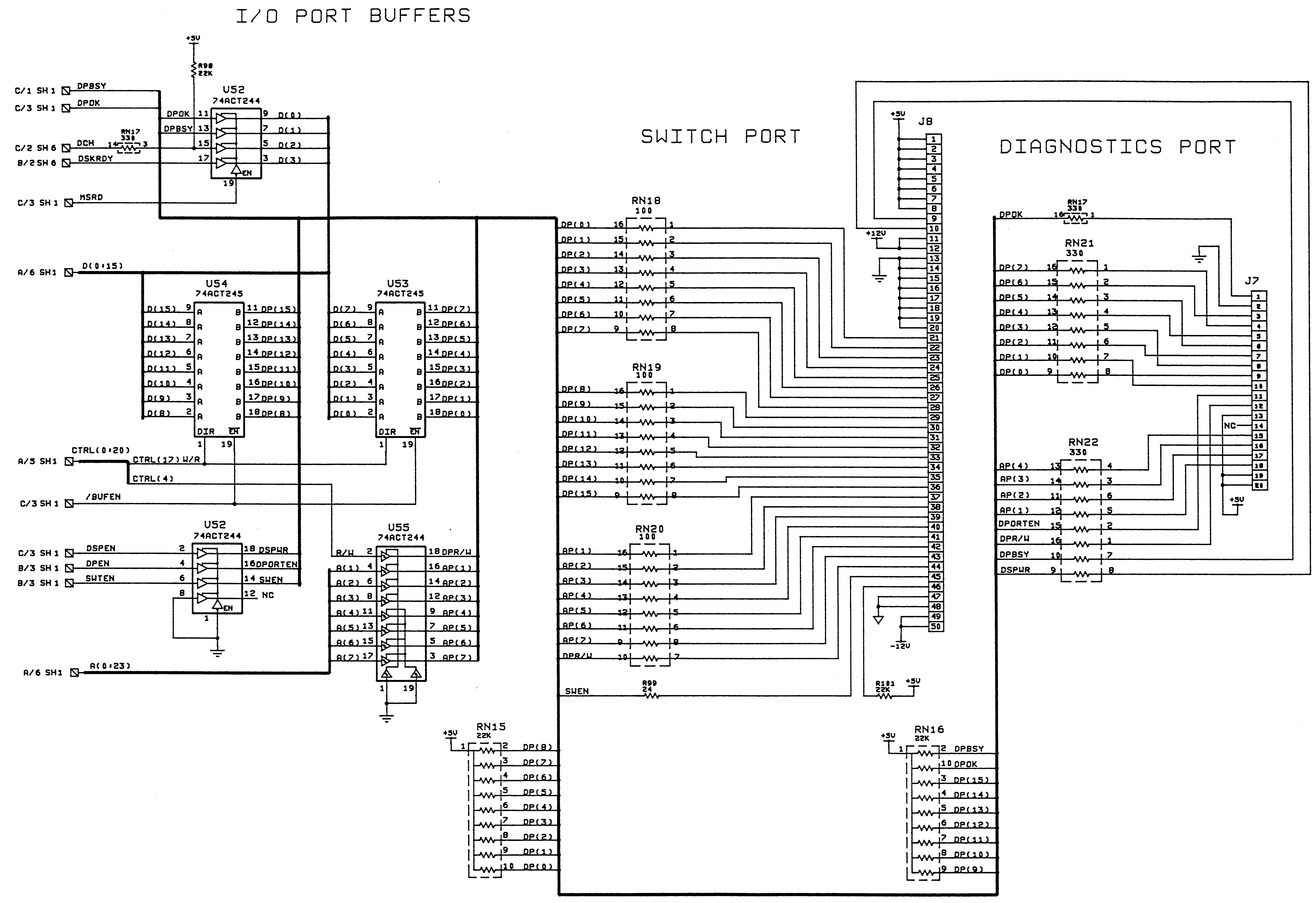

CONTROL PANEL RAM
A/6 SH1
D(0:15)
A(0:23)
U48 MCM60256 -100
U49 MCM60256 -100
U50 MCM60256 -100
U51 MCM60256 -100
U34 MCM60256 -100
U35 MCM60256 -100
U36 MCM60256 -100
U37 MCM60256 -100
SETUP EEPROM
U38 X2864BP-18
A(15) A(14) A(13) A(12) A(11) A(10) A(9) A(8) A(7) A(6) A(5) A(4) A(3) A(2) A(1)
A14 A13 A12 A11 A10 A9 A8 A7 A6 A5 A4 A3 A2 A1 A0
D7 D6 D5 D4 D3 D2 D1 D0
D(15) D(14) D(13) D(12) D(11) D(10) D(9) D(8)
D(7) D(6) D(5) D(4) D(3) D(2) D(1) D(0)
E1 G W
CE OE WE
CTRL(4)
CTRL(17)
RAM(0) RAM(1) RAM(2) RAM(3) RAM(4) RAM(5) RAM(6) RAM(7) RAM(8)
RAM(0:8)
CTRL(0:20)
U40 74ACT138
U41 74ACT138
A(16) A(17) A(18)
A0 A1 A2
+5V
CS1 CS2 CS3
Y0 Y1 Y2 Y3 Y4 Y5 Y6 Y7
CTRL(3) LDS
CTRL(2) UDS
A/5 SH1
U43 74ACT04
A(19)
/A(19)
D/4 SH1
/RAMEN
RAM & SETUP EEPROM ADDRESS DECODING
8 7 6 5 4 3 2 1
D C B A

GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
CONTROL PANEL PROCESSOR
RAM

SIZE D
DRAWING NO. 10-064710-00
REV M1
SCALE: NONE
SHEET 3 OF 9

SEE SHEET ONE FOR REVISIONS


I/O PORT BUFFERS
SWITCH PORT
DIAGNOSTICS PORT
U52
74ACT244
U54
74ACT245
U53
74ACT245
U55
74ACT244
RN17
330
R98
22K
RN18
100
RN19
100
RN20
100
RN21
330
RN22
330
RN15
22K
RN16
22K
R99
24
R101
22K
J8
J7
C/1 SH 1
C/3 SH 1
C/2 SH 6
B/2 SH 6
A/6 SH1
A/5 SH1
B/3 SH 1
DPBSY
DPOK
DCH
DSKRDY
MSRD
D(0:15)
A(0:23)
CTRL(0:20)
CTRL(17) W/R
CTRL(4)
/BUFEN
DSPEN
DPEN
SWTEN
DSPWR
DPORTEN
SWEN
NC
DPR/W
R/W
D(0)–D(15)
DP(0)–DP(15)
A(1)–A(7)
AP(1)–AP(7)
DIR
EN
+5V
+12V
-12V

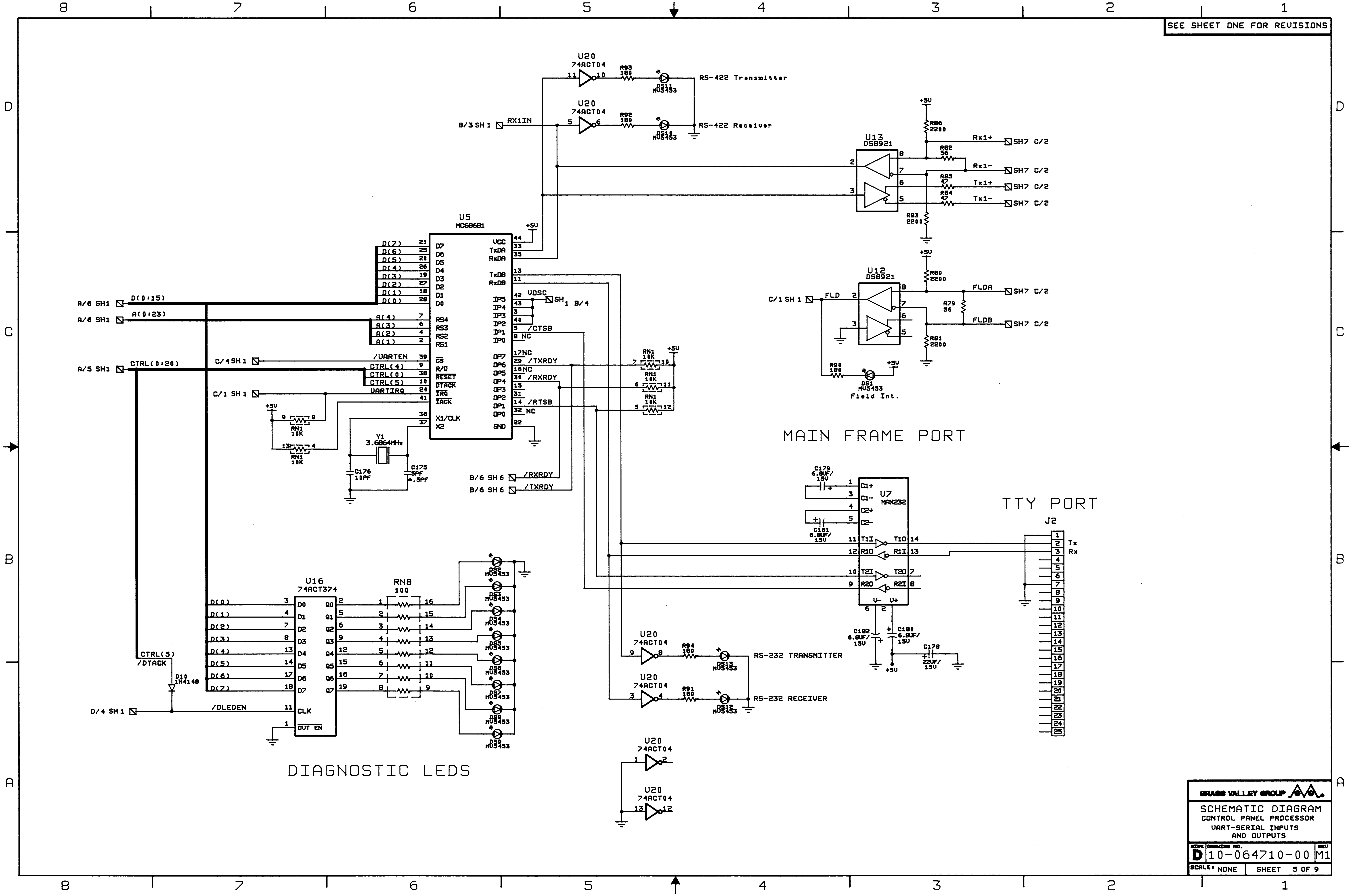
GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
CONTROL PANEL PROCESSOR
INPUT & OUTPUT PORTS

SIZE	DRAWING NO.	REV
D	10-064710-00	M1

SCALE: NONE SHEET 4 OF 9

SEE SHEET ONE FOR REVISIONS

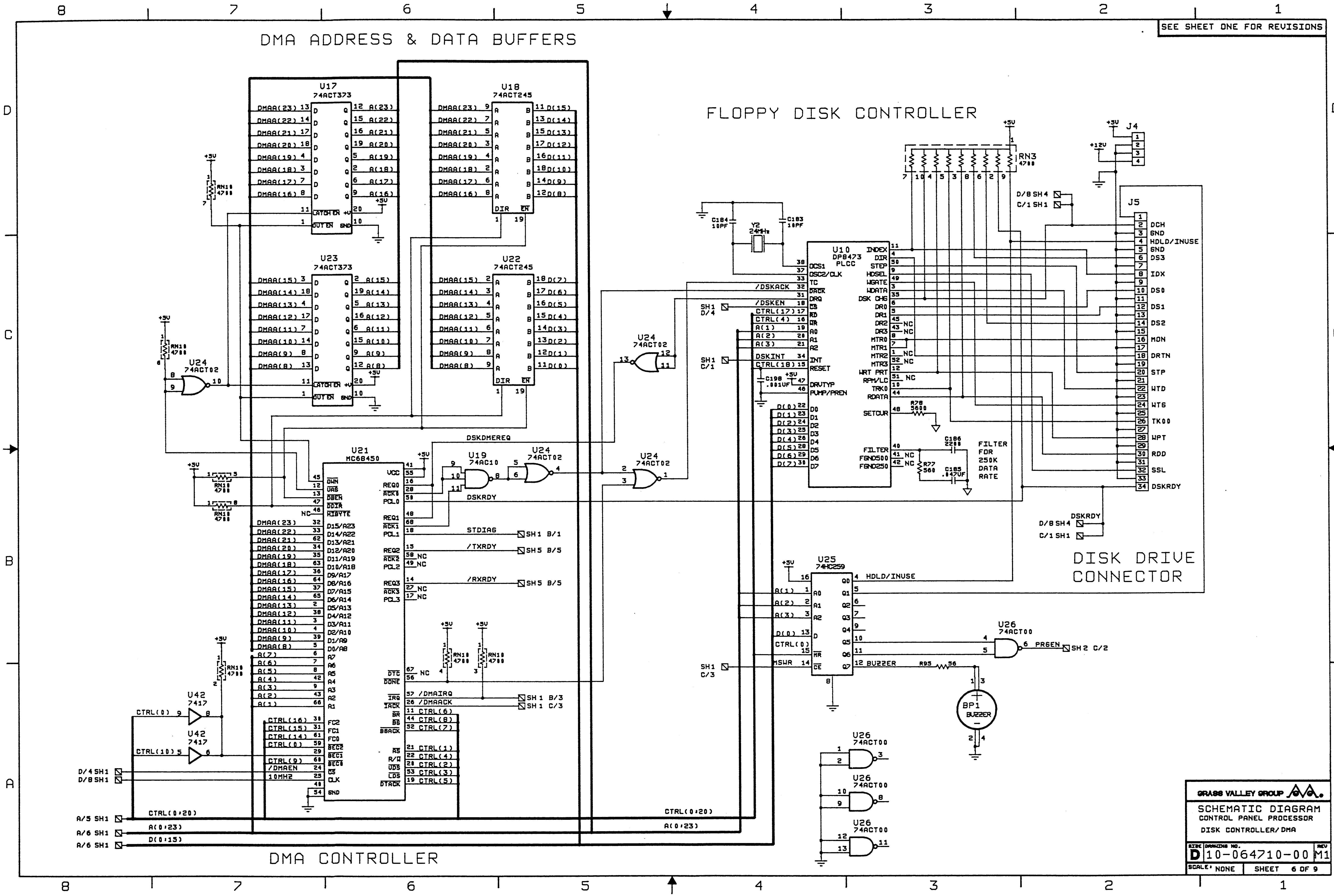


U20 74ACT04
R93 100
DS11 MV5453
RS-422 Transmitter
B/3 SH 1
RX1IN
R92 100
DS10 MV5453
RS-422 Receiver
+5V
R86 2200
U13 DS8921
R82 56
R85 47
R84 47
R83 2200
Rx1+
Rx1-
Tx1+
Tx1-
SH7 C/2
U5 MC68681
VCC
TxDA
RxDA
TxDB
RxDB
IP5 IP4 IP3 IP2 IP1 IP0
OP7 OP6 OP5 OP4 OP3 OP2 OP1 OP0
GND
D7 D6 D5 D4 D3 D2 D1 D0
RS4 RS3 RS2 RS1
CS
R/W
RESET
DTACK
IRQ
IACK
X1/CLK
X2
VOSC
SH 1 B/4
/CTSB
/TXRDY
/RXRDY
/RTSB
NC
A/6 SH1
D(0:15)
A(0:23)
A/5 SH1
CTRL(0:20)
C/4 SH 1
/UARTEN
CTRL(4)
CTRL(0)
CTRL(5)
C/1 SH 1
UARTIRQ
RN1 10K
Y1 3.6864MHz
C176 10PF
C175 5PF ±.5PF
B/6 SH 6
U12 DS8921
R80 2200
R79 56
R81 2200
FLD
FLDA
FLDB
R90 100
DS1 MV5453
Field Int.
MAIN FRAME PORT
C179 6.8UF/15V
C181 6.8UF/15V
U7 MAX232
C1+ C1- C2+ C2-
T1I T1O R1O R1I T2I T2O R2O R2I
V- V+
C182 6.8UF/15V
C180 6.8UF/15V
C178 22UF/15V
TTY PORT
J2
Tx
Rx
U16 74ACT374
RN8 100
DS2 DS3 DS4 DS5 DS6 DS7 DS8 DS9 MV5453
CTRL(5)
/DTACK
D10 1N4148
D/4 SH 1
/DLEDEN
CLK
OUT EN
R94 100
DS13 MV5453
RS-232 TRANSMITTER
R91 100
DS12 MV5453
RS-232 RECEIVER
DIAGNOSTIC LEDS

GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
CONTROL PANEL PROCESSOR
UART-SERIAL INPUTS
AND OUTPUTS

SIZE	DRAWING NO.	REV
D	10-064710-00	M1
SCALE: NONE	SHEET 5 OF 9	


8
7
6
5
4
3
2
1
D
C
B
A
DMA ADDRESS & DATA BUFFERS
U17
74ACT373
U18
74ACT245
U23
74ACT373
U22
74ACT245
DMAA(23)
DMAA(22)
DMAA(21)
DMAA(20)
DMAA(19)
DMAA(18)
DMAA(17)
DMAA(16)
DMAA(15)
DMAA(14)
DMAA(13)
DMAA(12)
DMAA(11)
DMAA(10)
DMAA(9)
DMAA(8)
A(23)
A(22)
A(21)
A(20)
A(19)
A(18)
A(17)
A(16)
A(15)
A(14)
A(13)
A(12)
A(11)
A(10)
A(9)
A(8)
D(15)
D(14)
D(13)
D(12)
D(11)
D(10)
D(9)
D(8)
D(7)
D(6)
D(5)
D(4)
D(3)
D(2)
D(1)
D(0)
LATCH EN
OUT EN
DIR
EN
+5V
RN10
4700
U24
74ACT02
U21
MC68450
DSKDMEREQ
U19
74AC10
DSKRDY
STDIAG
/TXRDY
/RXRDY
SH1 B/1
SH5 B/5
SH1 B/3
SH1 C/3
/DMAIRQ
/DMAACK
NC
U42
7417
CTRL(0)
CTRL(10)
D/4 SH1
D/8 SH1
A/5 SH1
A/6 SH1
CTRL(0:20)
A(0:23)
D(0:15)
/DMAEN
10MHZ
DMA CONTROLLER
FLOPPY DISK CONTROLLER
RN3
4700
J4
+12V
J5
D/8 SH4
C/1 SH1
C184
10PF
C183
10PF
Y2
24MHz
U10
DP8473
PLCC
/DSKACK
/DSKEN
/DSKINT
SH1 D/4
SH1 C/1
C198
.001UF
R78
5600
C186
2200
R77
560
C185
.047UF
FILTER FOR 250K DATA RATE
DCH
GND
HDLD/INUSE
DS3
IDX
DS0
DS1
DS2
MON
DRTN
STP
WTD
WTG
TK00
WPT
RDD
SSL
DSKRDY
DISK DRIVE CONNECTOR
U25
74HC259
HDLD/INUSE
MSWR
SH1 C/3
U26
74ACT00
PRGEN
SH2 C/2
R95
56
BUZZER
BP1
BUZZER

SEE SHEET ONE FOR REVISIONS

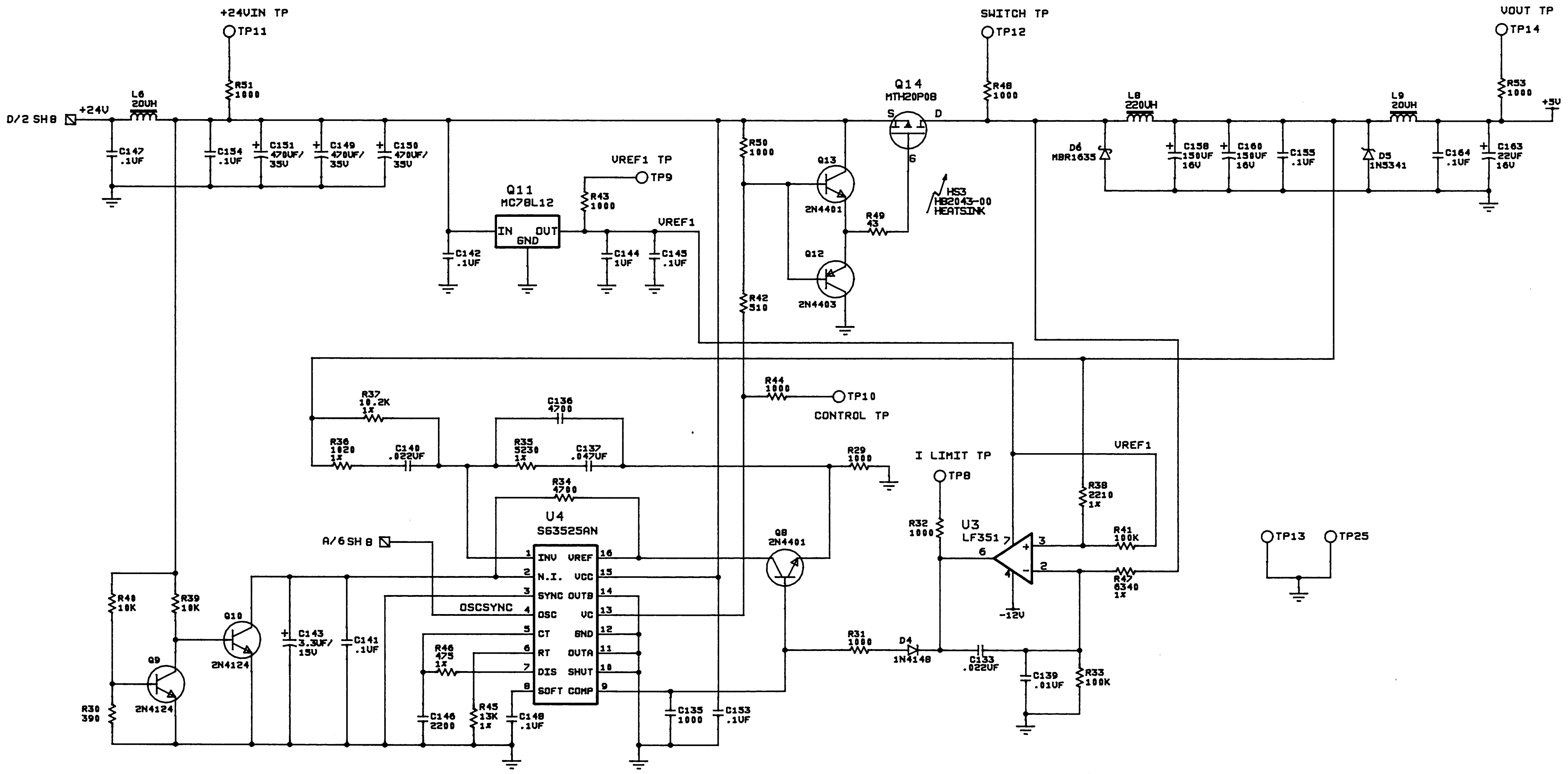
GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
CONTROL PANEL PROCESSOR
DISK CONTROLLER/DMA

SIZE D
DRAWING NO. 10-064710-00
REV M1
SCALE: NONE
SHEET 6 OF 9

SEE SHEET ONE FOR REVISIONS

POWER SUPPLY


+24VIN TP
TP11
R51 1000
D/2 SH8
+24V
L6 20UH
C147 .1UF
C154 .1UF
C151 470UF/ 35V
C149 470UF/ 35V
C150 470UF/ 35V
VREF1 TP
TP9
Q11 MC78L12
IN OUT GND
R43 1000
VREF1
C142 .1UF
C144 1UF
C145 .1UF
SWITCH TP
TP12
Q14 MTH20P08
S D G
R48 1000
R50 1000
Q13 2N4401
R49 43
Q12 2N4403
HS3 HB2043-00 HEATSINK
R42 510
L8 220UH
D6 MBR1635
C158 150UF 16V
C160 150UF 16V
C155 .1UF
D5 1N5341
L9 20UH
C164 .1UF
C163 22UF 16V
VOUT TP
TP14
R53 1000
+5V
R44 1000
TP10
CONTROL TP
R37 10.2K 1%
R36 1020 1%
C140 .022UF
C136 4700
R35 5230 1%
C137 .047UF
R29 1000
R34 4700
U4 SG3525AN
1 INV
2 N.I.
3 SYNC
4 OSC
5 CT
6 RT
7 DIS
8 SOFT
16 VREF
15 VCC
14 OUTB
13 VC
12 GND
11 OUTA
10 SHUT
9 COMP
A/6 SH 8
OSCSYNC
R40 10K
R39 10K
Q10 2N4124
Q9 2N4124
R30 390
C143 3.3UF/ 15V
C141 .1UF
R46 475 1%
C146 2200
R45 13K 1%
C148 .1UF
C135 1000
C153 .1UF
Q8 2N4401
R31 1000
D4 1N4148
I LIMIT TP
TP8
R32 1000
U3 LF351
7 6 4 3 2
-12V
VREF1
R38 2210 1%
R41 100K
R47 6340 1%
C133 .022UF
C139 .01UF
R33 100K
TP13
TP25

GRASS VALLEY GROUP

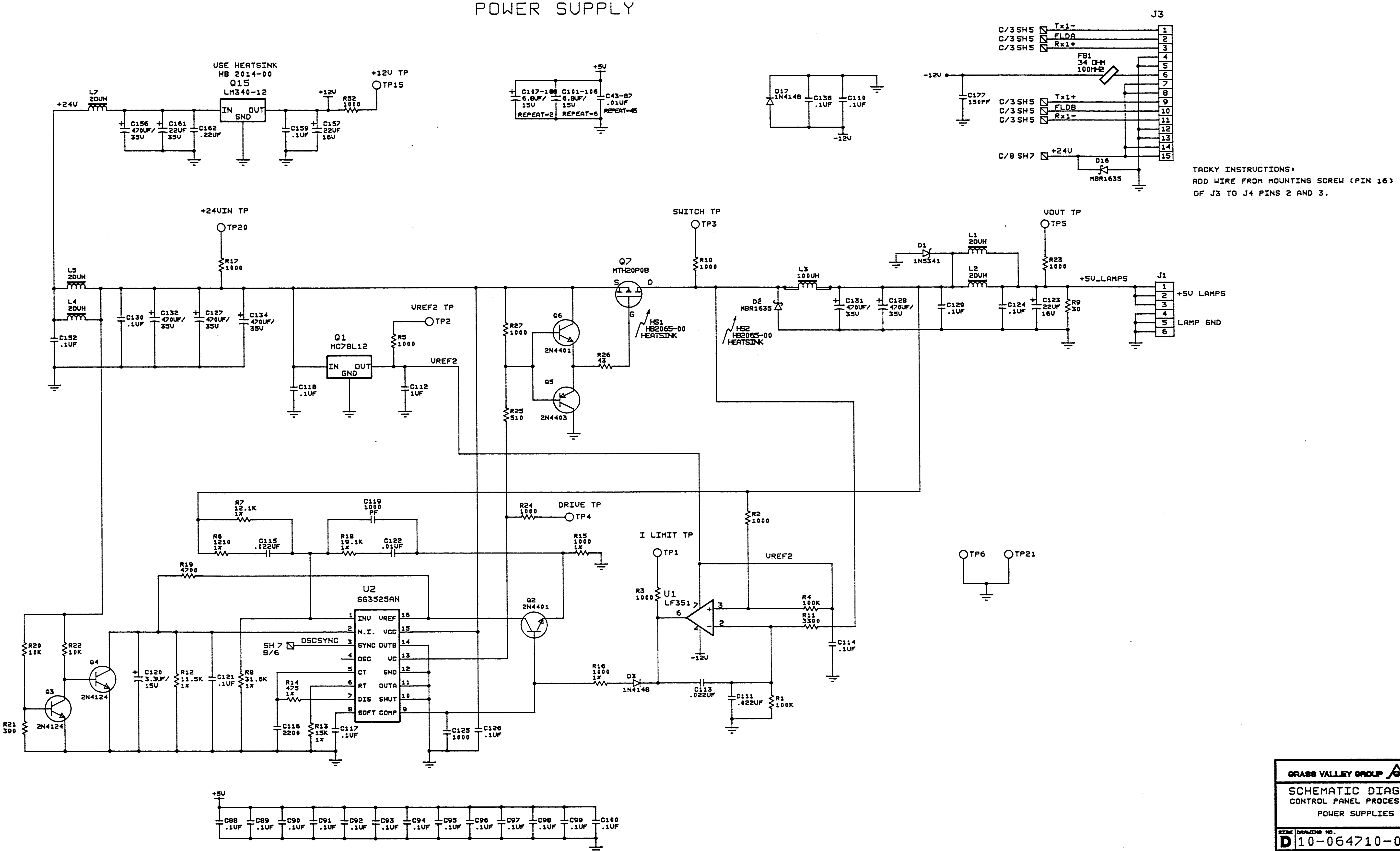
SCHEMATIC DIAGRAM
CONTROL PANEL PROCESSOR
POWER SUPPLIES

SIZE	DRAWING NO.	REV
D	10-064710-00	M1

SCALE: NONE　SHEET 7 OF 9

SEE SHEET ONE FOR REVISIONS

POWER SUPPLY



USE HEATSINK HB 2014-00
Q15 LM340-12
IN OUT GND
+24V
L7 20UH
C156 470UF/ 35V
C161 22UF 35V
C162 .22UF
+12V
C159 .1UF
C157 22UF 16V
R32 1000
+12V TP
TP15
+5V
C107-188 6.8UF/ 15V REPEAT-2
C101-106 6.8UF/ 15V REPEAT-6
C43-87 .01UF REPEAT-45
D17 1N4148
C138 .1UF
C110 .1UF
-12V
-12V
C177 150PF
FB1 34 OHM 100MHZ
J3
C/3 SH5 Tx1-
C/3 SH5 FLDA
C/3 SH5 Rx1+
C/3 SH5 Tx1+
C/3 SH5 FLDB
C/3 SH5 Rx1-
C/8 SH7 +24V
D16 MBR1635
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
TACKY INSTRUCTIONS:
ADD WIRE FROM MOUNTING SCREW (PIN 16) OF J3 TO J4 PINS 2 AND 3.
+24VIN TP
TP20
R17 1000
L5 20UH
L4 20UH
C152 .1UF
C130 .1UF
C132 470UF/ 35V
C127 470UF/ 35V
C134 470UF/ 35V
Q1 MC78L12
IN OUT GND
C118 .1UF
VREF2 TP
TP2
R5 1000
VREF2
C112 1UF
R27 1000
R25 510
Q6 2N4401
Q5 2N4403
R26 43
Q7 MTH20P08
S D G
HS1 HB2065-00 HEATSINK
SWITCH TP
TP3
R10 1000
HS2 HB2065-00 HEATSINK
D2 MBR1635
L3 100UH
C131 470UF/ 35V
C128 470UF/ 35V
D1 1N5341
L1 20UH
L2 20UH
C129 .1UF
C124 .1UF
C123 22UF 16V
VOUT TP
TP5
R23 1000
R9 30
+5V_LAMPS
J1
+5V LAMPS
LAMP GND
1 2 3 4 5 6
R7 12.1K 1%
C119 1000 PF
R6 1210 1%
C115 .022UF
R18 19.1K 1%
C122 .01UF
R24 1000
DRIVE TP
TP4
R15 1000 1%
R19 4700
U2 SG3525AN
1 INV 2 N.I. 3 SYNC 4 OSC 5 CT 6 RT 7 DIS 8 SOFT
16 VREF 15 VCC 14 OUTB 13 VC 12 GND 11 OUTA 10 SHUT 9 COMP
SH 7 B/6 OSCSYNC
R20 10K
R22 10K
Q4 2N4124
Q3 2N4124
R21 390
C120 3.3UF/ 15V
R12 11.5K 1%
C121 .1UF
R8 31.6K 1%
R14 475 1%
C116 2200
R13 15K 1%
C117 .1UF
C125 1000
C126 .1UF
Q2 2N4401
I LIMIT TP
TP1
R3 1000
U1 LF351
7 6 3 2 4
-12V
R2 1000
VREF2
R4 100K
R11 3300
C114 .1UF
R16 1000 1%
D3 1N4148
C113 .022UF
C111 .022UF
R1 100K
TP6
TP21
+5V
C88 .1UF
C89 .1UF
C90 .1UF
C91 .1UF
C92 .1UF
C93 .1UF
C94 .1UF
C95 .1UF
C96 .1UF
C97 .1UF
C98 .1UF
C99 .1UF
C100 .1UF

GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
CONTROL PANEL PROCESSOR
POWER SUPPLIES

SIZE	DRAWING NO.	REV
D	10-064710-00	M1

SCALE: NONE SHEET 8 OF 9

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REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC

SEE SHEET 1 FOR REVISIONS.

Net name to page:

+12V	2,4,6,8	+24V	7,8	+5V	1,2,3,4,5,6,7,8	+5V_LAMPS	8
-12V	4,7,8	/A(19)	3	/BUFEN	1,4	/CTSB	5
/DLEDEN	1,5	/DMAACK	1,6	/DMAEN	1,6	/DMAIRQ	1,6
/DSKACK	6	/DSKEN	1,6	/INTAK	1	/MFPEN	1
/PBFEN	1	/PROMEN	1,2	/RAMEN	1,3	/RTSB	5
/RXRDY	5,6	/TXRDY	5,6	/UARTEN	1,5	10MHZ	1,6
A(0)	1	A(1)	1,2,3,4,5,6	A(10)	1,2,3,6	A(11)	1,2,3,6
A(12)	1,2,3,6	A(13)	1,2,3,6	A(14)	1,2,3,6	A(15)	1,2,3,6
A(16)	1,2,3,6	A(17)	1,2,3,6	A(18)	1,2,3,6	A(19)	1,2,3,6
A(2)	1,2,3,4,5,6	A(20)	1,6	A(21)	1,6	A(22)	1,6
A(23)	1,6	A(3)	1,2,3,4,5,6	A(4)	1,2,3,4,5,6	A(5)	1,2,3,4,6
A(6)	1,2,3,4,6	A(7)	1,2,3,4,6	A(8)	1,2,3,6	A(9)	1,2,3,6
AGND	4,6	AP(1)	4	AP(2)	4	AP(3)	4
AP(4)	4	AP(5)	4	AP(6)	4	AP(7)	4
BUZZER	6	CTRL(0)	1,5,6	CTRL(1)	1,6	CTRL(10)	1,6
CTRL(11)	1	CTRL(12)	1	CTRL(13)	1	CTRL(14)	1,6
CTRL(15)	1,6	CTRL(16)	1,6	CTRL(17)	1,2,3,4,6	CTRL(18)	1,6
CTRL(19)	1	CTRL(2)	1,2,3,6	CTRL(3)	1,2,3,6	CTRL(4)	1,2,3,4,5,6
CTRL(5)	1,5,6	CTRL(6)	1,6	CTRL(7)	1,6	CTRL(8)	1,6
CTRL(9)	1,6	D(0)	1,2,3,4,5,6	D(1)	1,2,3,4,5,6	D(10)	1,2,3,4,6
D(11)	1,2,3,4,6	D(12)	1,2,3,4,6	D(13)	1,2,3,4,6	D(14)	1,2,3,4,6
D(15)	1,2,3,4,6	D(2)	1,2,3,4,5,6	D(3)	1,2,3,4,5,6	D(4)	1,2,3,4,5,6
D(5)	1,2,3,4,5,6	D(6)	1,2,3,4,5,6	D(7)	1,2,3,4,5,6	D(8)	1,2,3,4,6
D(9)	1,2,3,4,6	DCH	1,4,6	DMAA(10)	6	DMAA(11)	6
DMAA(12)	6	DMAA(13)	6	DMAA(14)	6	DMAA(15)	6
DMAA(16)	6	DMAA(17)	6	DMAA(18)	6	DMAA(19)	6
DMAA(20)	6	DMAA(21)	6	DMAA(22)	6	DMAA(23)	6
DMAA(8)	6	DMAA(9)	6	DP(0)	4	DP(1)	4
DP(10)	4	DP(11)	4	DP(12)	4	DP(13)	4
DP(14)	4	DP(15)	4	DP(2)	4	DP(3)	4
DP(4)	4	DP(5)	4	DP(6)	4	DP(7)	4
DP(8)	4	DP(9)	4	DPBSY	1,4	DPEN	1,4
DPOK	1,4	DPORTEN	4	DPR/W	4	DRTN	6
DS0	6	DS1	6	DS2	6	DS3	6
DSKDMEREQ	6	DSKINT	1,6	DSKRDY	1,4,6	DSPEN	1,4
DSPWR	4	FLD	1,5	FLDA	5,8	FLDB	5,8
GND	1,2,3,4,5,6,7,8	HDLD/INUSE	6	IDX	6	MON	6
MSRD	1,4	MSWR	1,6	OSCSYNC	7,8	PM(0)	2
PM(1)	2	PM(2)	2	PM(3)	2	PM(4)	2
PM(5)	2	PM(6)	2	PM(7)	2	PRGEN	2,6
RAM(0)	3	RAM(1)	3	RAM(2)	3	RAM(3)	3
RAM(4)	3	RAM(5)	3	RAM(6)	3	RAM(7)	3
RAM(8)	3	RDD	6	RX1IN	1,5	Rx1+	5,8
Rx1-	5,8	SSL	6	STDIAG	1,6	STP	6
SWEN	4	SWTEN	1,4	TK00	6	Tx1+	5,8
Tx1-	5,8	UARTIRQ	1,5	VOSC	1,5	VPP	2
VREF1	7	VREF2	8	WPT	6	WTD	6
WTG	6						

Reference Designator to page:

BP1	6	C110	8	C111	8	C112	8	C113	8	C114	8	C115	8
C116	8	C117	8	C118	8	C119	8	C120	8	C121	8	C122	8
C123	8	C124	8	C125	8	C126	8	C127	8	C128	8	C129	8
C130	8	C131	8	C132	8	C133	7	C134	8	C135	7	C136	7
C137	7	C138	8	C139	7	C140	7	C141	7	C142	7	C143	7
C144	7	C145	7	C146	7	C147	7	C148	7	C149	7	C150	7
C151	7	C152	8	C153	7	C154	7	C155	7	C156	8	C157	8
C158	7	C159	8	C160	7	C161	8	C162	8	C163	7	C164	7
C175	5	C176	5	C177	8	C178	5	C179	5	C180	5	C181	5
C182	5	C183	6	C184	6	C185	6	C186	6	C190	2	C191	2
C192	2	C193	2	C194	1	C195	2	C196	2	C197	2	C198	6
C199	2	C200	2	C201	2	C202	2	C43-87	8	C88-100	8	C101-106	8
C107-108	8	D1	8	D2	8	D3	8	D4	7	D5	7	D6	7
D10	5	D13	2	D15	1	D16	8	D17	8	DS1	5	DS2	5
DS3	5	DS4	5	DS5	5	DS6	5	DS7	5	DS8	5	DS9	5
DS10	5	DS11	5	DS12	5	DS13	5	FB1	8	J1	8	J2	5
J3	8	J4	6	J5	6	J6	1	J7	4	J8	4	K2	2
L1	8	L2	8	L3	8	L4	8	L5	8	L6	7	L7	8
L8	7	L9	7	Q1	8	Q2	8	Q3	8	Q4	8	Q5	8
Q6	8	Q7	8	Q8	7	Q9	7	Q10	7	Q11	7	Q12	7
Q13	7	Q14	7	Q15	8	R1	8	R2	8	R3	8	R4	8
R5	8	R6	8	R7	8	R8	8	R9	8	R10	8	R11	8
R12	8	R13	8	R14	8	R15	8	R16	8	R17	8	R18	8
R19	8	R20	8	R21	8	R22	8	R23	8	R24	8	R25	8
R26	8	R27	8	R29	7	R30	7	R31	7	R32	7	R33	7
R34	7	R35	7	R36	7	R37	7	R38	7	R39	7	R40	7
R41	7	R42	7	R43	7	R44	7	R45	7	R46	7	R47	7
R48	7	R49	7	R50	7	R51	7	R52	8	R53	7	R76	1
R77	6	R78	6	R79	5	R80	5	R81	5	R82	5	R83	5
R84	5	R85	5	R86	5	R90	5	R91	5	R92	5	R93	5
R94	5	R95	6	R96	1	R97	1	R98	4	R99	4	R100	1
R101	4	R102	1	RN1	1,5	RN2	1	RN3	6	RN5	1	RN6	1
RN7	1	RN8	5	RN9	1	RN10	6	RN12	1	RN13	1	RN14	1
RN15	4	RN16	4	RN17	4	RN18	4	RN19	4	RN20	4	RN21	4
RN22	4	S1	1	TP1	8	TP2	8	TP3	8	TP4	8	TP5	8
TP6	8	TP7	1	TP8	7	TP9	7	TP10	7	TP11	7	TP12	7
TP13	7	TP14	7	TP15	8	TP20	8	TP21	8	TP25	7	TP26	1
TP27	1	TP28	1	TP29	1	U1	8	U2	8	U3	7	U4	7
U5	5	U6	1	U7	5	U8	1	U9	1	U10	6	U12	5
U13	5	U15	1	U16	5	U17	6	U18	6	U19	1,6	U20	5
U21	6	U22	6	U23	6	U24	6	U25	6	U26	6	U30	2
U31	2	U32	2	U33	2	U34	3	U35	3	U36	3	U37	3
U38	3	U39	2	U40	3	U41	3	U42	1,6	U43	1,3	U44	2
U45	2	U46	2	U47	2	U48	3	U49	3	U50	3	U51	3
U52	4	U53	4	U54	4	U55	4	U56	1	Y1	5	Y2	6
Y3	1												

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ENGRG RLSE	DATE

SCHEMATIC DIAGRAM
CONTROL PANEL PROCESSOR
CROSS REFERENCE

SIZE D
DRAWING NO. 10-064710-00 M1
SCALE: NONE
SHEET 9 OF 9

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A1	W418	——	——	——	——		——

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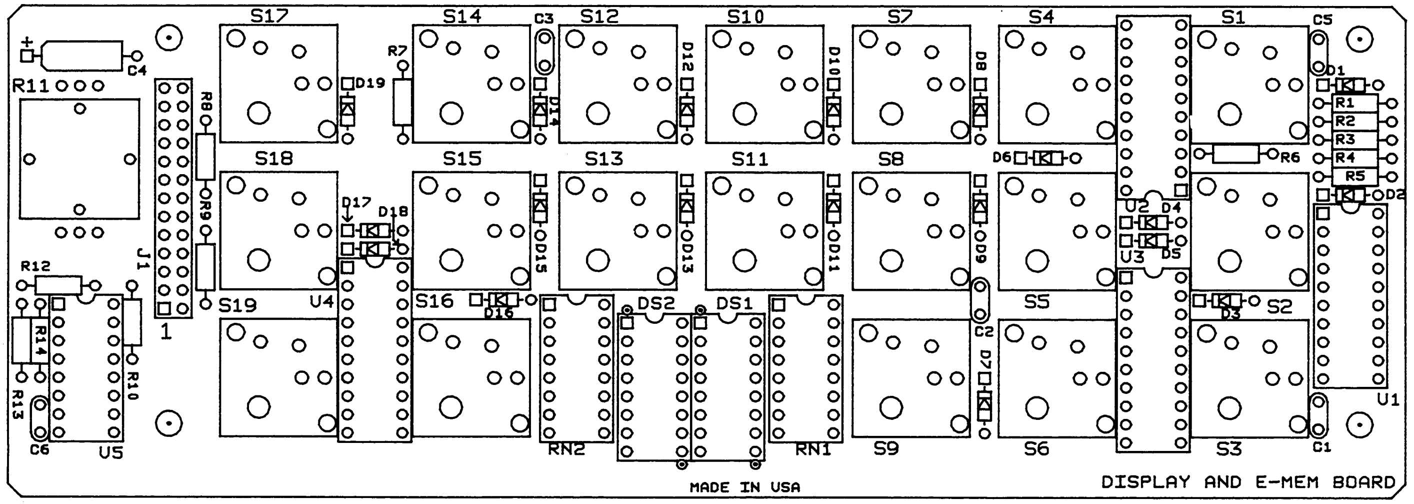
S17
S14
C3
S12
S10
S7
S4
S1
C5
C4
R11
R8
R7
D19
D14
D12
D10
D8
D1
R1
R2
R3
R4
R5
D2
R6
D6
S18
S15
S13
S11
S8
U2
D4
U3
D5
R9
D17
D18
D15
D13
D11
D9
J1
R12
R14
R13
R10
S19
U4
S16
D16
DS2
DS1
C2
S5
D3
S2
D7
U1
C6
U5
RN2
RN1
S9
S6
S3
C1
1
MADE IN USA
DISPLAY AND E-MEM BOARD

NOTES:

1. SCHEMATIC REFERENCE: D10-064711-00.
2. REFER TO SCHEMATIC FOR EDGE CONNECTOR PIN OUT INFORMATION.

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CHECKED DATE
APPROVED DATE
PILOT RUN RLSE DATE 11-84
PRODUCTION RLSE DATE

COMPONENT LOCATION DIAGRAM
PANEL DISPLAY & EMEM

SIZE B DRAWING NO. 07-064711-00 A1
SCALE: NONE SHEET 1 OF 1

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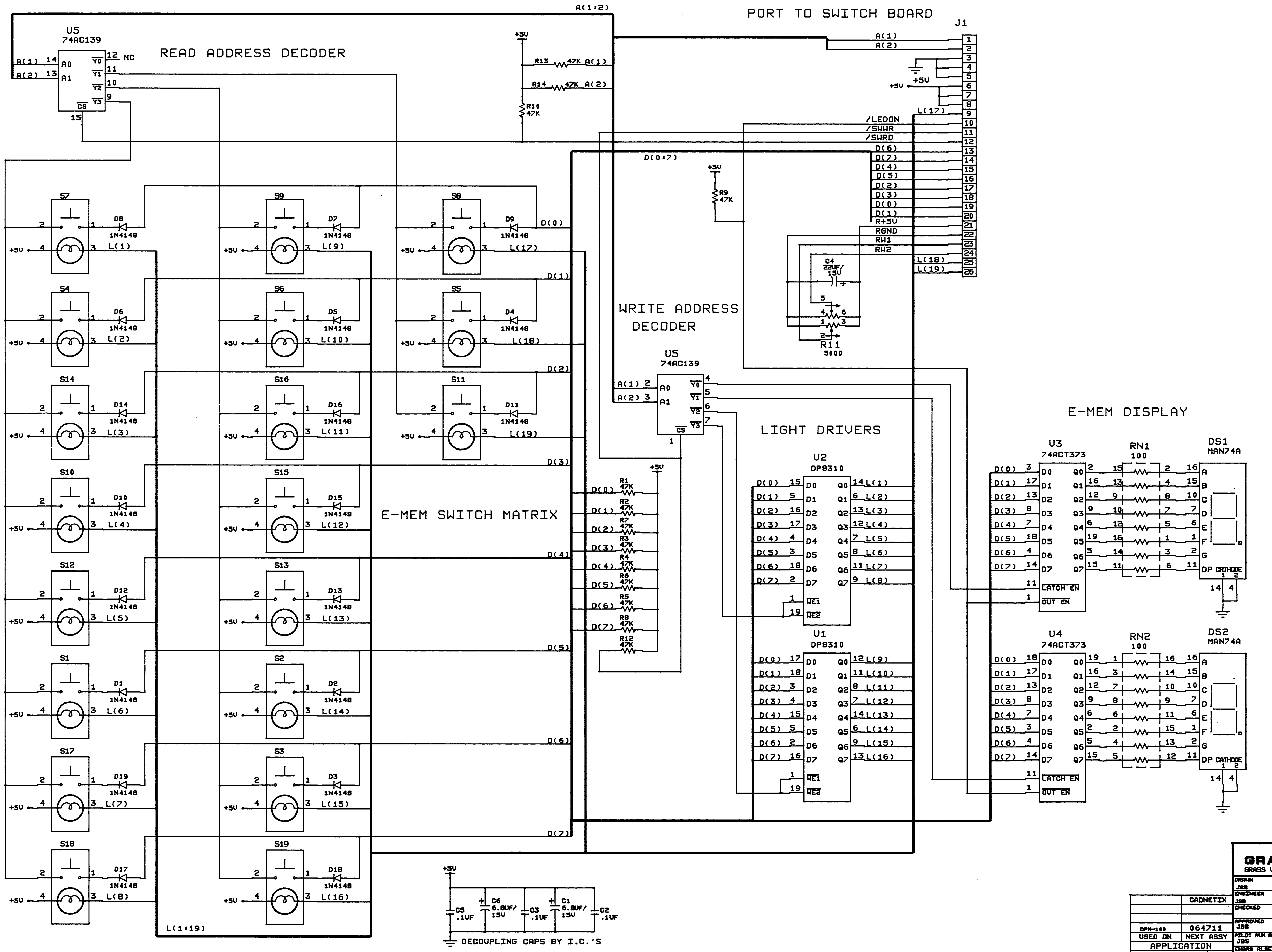
X1	—	JS	2/90	—	—		—
C1 AND C6 WERE .1uf.							
A1	W418	JS	2/90	—			—
PILOT RUN RELEASE							
B1	W465	JS	2/90	—			—
ISSUE UPDATE							
C1	W481	JS	3/90	—			—
ISSUE UPDATE							
D1	W671	ED	5/90	—			—
BOM CHANGE ONLY							
E1	W549	ED	5/90	—		6.90	—
ISSUE UPDATE							


A(1:2)
PORT TO SWITCH BOARD
J1
U5
74AC139
READ ADDRESS DECODER
A(1)
A(2)
NC
+5V
R13 47K A(1)
R14 47K A(2)
R10 47K
/LEDON
/SWWR
/SWRD
D(0:7)
R9 47K
R+5V
RGND
RW1
RW2
L(17)
L(18)
L(19)
C4 22UF/15V
R11 5000
WRITE ADDRESS DECODER
U5
74AC139
LIGHT DRIVERS
U2
DP8310
U1
DP8310
E-MEM DISPLAY
U3
74ACT373
U4
74ACT373
RN1 100
RN2 100
DS1 MAN74A
DS2 MAN74A
LATCH EN
OUT EN
DP CATHODE
E-MEM SWITCH MATRIX
S7 S9 S8 S4 S6 S5 S14 S16 S11 S10 S15 S12 S13 S1 S2 S17 S3 S18 S19
1N4148
L(1:19)
R1 R2 R7 R3 R4 R6 R5 R8 R12 47K
C5 .1UF
C6 6.8UF/15V
C3 .1UF
C1 6.8UF/15V
C2 .1UF
DECOUPLING CAPS BY I.C.'S

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ENGRG RLSE DATE

SCHEMATIC DIAGRAM
PANEL
DISPLAY AND EMEM BOARD

SIZE D
DRAWING NO. 10-064711-00
REV E1
SCALE: NONE
SHEET 1 OF 1

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X1	——	PLUM	——	——	——		——
A1	W450	JS	11/89	——	——	11/89	——

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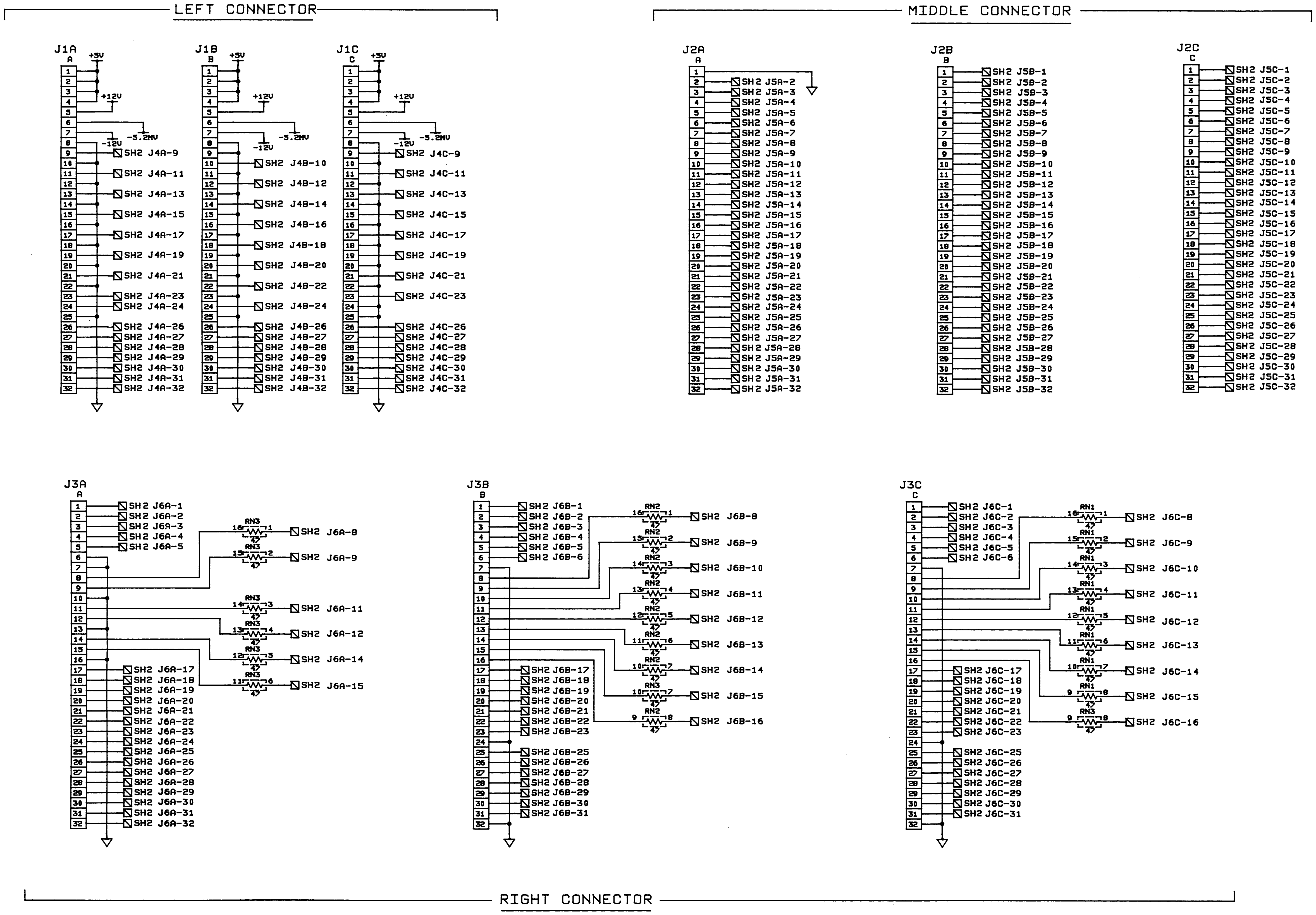
LEFT CONNECTOR
J1A
A
J1B
B
J1C
C
+5V
+12V
-12V
-5.2MV
SH2 J4A-9
SH2 J4A-11
SH2 J4A-13
SH2 J4A-15
SH2 J4A-17
SH2 J4A-19
SH2 J4A-21
SH2 J4A-23
SH2 J4A-24
SH2 J4A-26
SH2 J4A-27
SH2 J4A-28
SH2 J4A-29
SH2 J4A-30
SH2 J4A-31
SH2 J4A-32
SH2 J4B-10
SH2 J4B-12
SH2 J4B-14
SH2 J4B-16
SH2 J4B-18
SH2 J4B-20
SH2 J4B-22
SH2 J4B-24
SH2 J4B-26
SH2 J4B-27
SH2 J4B-28
SH2 J4B-29
SH2 J4B-30
SH2 J4B-31
SH2 J4B-32
SH2 J4C-9
SH2 J4C-11
SH2 J4C-13
SH2 J4C-15
SH2 J4C-17
SH2 J4C-19
SH2 J4C-21
SH2 J4C-23
SH2 J4C-26
SH2 J4C-27
SH2 J4C-28
SH2 J4C-29
SH2 J4C-30
SH2 J4C-31
SH2 J4C-32
MIDDLE CONNECTOR
J2A
A
J2B
B
J2C
C
SH2 J5A-2
SH2 J5A-3
SH2 J5A-4
SH2 J5A-5
SH2 J5A-6
SH2 J5A-7
SH2 J5A-8
SH2 J5A-9
SH2 J5A-10
SH2 J5A-11
SH2 J5A-12
SH2 J5A-13
SH2 J5A-14
SH2 J5A-15
SH2 J5A-16
SH2 J5A-17
SH2 J5A-18
SH2 J5A-19
SH2 J5A-20
SH2 J5A-21
SH2 J5A-22
SH2 J5A-23
SH2 J5A-24
SH2 J5A-25
SH2 J5A-26
SH2 J5A-27
SH2 J5A-28
SH2 J5A-29
SH2 J5A-30
SH2 J5A-31
SH2 J5A-32
SH2 J5B-1
SH2 J5B-2
SH2 J5B-3
SH2 J5B-4
SH2 J5B-5
SH2 J5B-6
SH2 J5B-7
SH2 J5B-8
SH2 J5B-9
SH2 J5B-10
SH2 J5B-11
SH2 J5B-12
SH2 J5B-13
SH2 J5B-14
SH2 J5B-15
SH2 J5B-16
SH2 J5B-17
SH2 J5B-18
SH2 J5B-19
SH2 J5B-20
SH2 J5B-21
SH2 J5B-22
SH2 J5B-23
SH2 J5B-24
SH2 J5B-25
SH2 J5B-26
SH2 J5B-27
SH2 J5B-28
SH2 J5B-29
SH2 J5B-30
SH2 J5B-31
SH2 J5B-32
SH2 J5C-1
SH2 J5C-2
SH2 J5C-3
SH2 J5C-4
SH2 J5C-5
SH2 J5C-6
SH2 J5C-7
SH2 J5C-8
SH2 J5C-9
SH2 J5C-10
SH2 J5C-11
SH2 J5C-12
SH2 J5C-13
SH2 J5C-14
SH2 J5C-15
SH2 J5C-16
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SH2 J5C-20
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SH2 J5C-24
SH2 J5C-25
SH2 J5C-26
SH2 J5C-27
SH2 J5C-28
SH2 J5C-29
SH2 J5C-30
SH2 J5C-31
SH2 J5C-32
J3A
A
J3B
B
J3C
C
SH2 J6A-1
SH2 J6A-2
SH2 J6A-3
SH2 J6A-4
SH2 J6A-5
RN3
47
SH2 J6A-8
SH2 J6A-9
SH2 J6A-11
SH2 J6A-12
SH2 J6A-14
SH2 J6A-15
SH2 J6A-17
SH2 J6A-18
SH2 J6A-19
SH2 J6A-20
SH2 J6A-21
SH2 J6A-22
SH2 J6A-23
SH2 J6A-24
SH2 J6A-25
SH2 J6A-26
SH2 J6A-27
SH2 J6A-28
SH2 J6A-29
SH2 J6A-30
SH2 J6A-31
SH2 J6A-32
SH2 J6B-1
SH2 J6B-2
SH2 J6B-3
SH2 J6B-4
SH2 J6B-5
SH2 J6B-6
RN2
SH2 J6B-8
SH2 J6B-9
SH2 J6B-10
SH2 J6B-11
SH2 J6B-12
SH2 J6B-13
SH2 J6B-14
SH2 J6B-15
SH2 J6B-16
SH2 J6B-17
SH2 J6B-18
SH2 J6B-19
SH2 J6B-20
SH2 J6B-21
SH2 J6B-22
SH2 J6B-23
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SH2 J6B-26
SH2 J6B-27
SH2 J6B-28
SH2 J6B-29
SH2 J6B-30
SH2 J6B-31
SH2 J6C-1
SH2 J6C-2
SH2 J6C-3
SH2 J6C-4
SH2 J6C-5
SH2 J6C-6
RN1
SH2 J6C-8
SH2 J6C-9
SH2 J6C-10
SH2 J6C-11
SH2 J6C-12
SH2 J6C-13
SH2 J6C-14
SH2 J6C-15
SH2 J6C-16
SH2 J6C-17
SH2 J6C-18
SH2 J6C-19
SH2 J6C-20
SH2 J6C-21
SH2 J6C-22
SH2 J6C-23
SH2 J6C-25
SH2 J6C-26
SH2 J6C-27
SH2 J6C-28
SH2 J6C-29
SH2 J6C-30
SH2 J6C-31
RIGHT CONNECTOR

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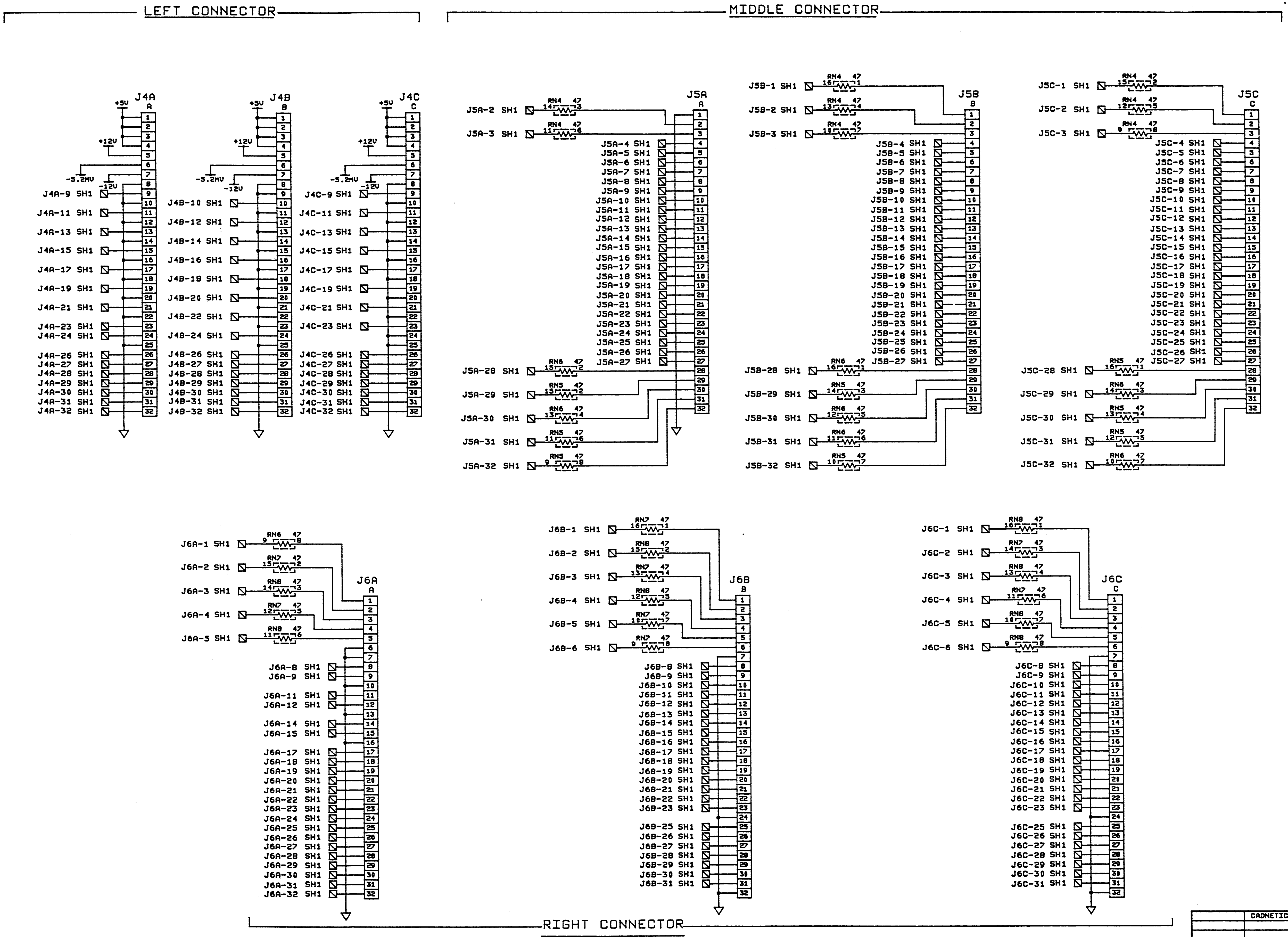
LEFT CONNECTOR
MIDDLE CONNECTOR
RIGHT CONNECTOR
J4A A
J4B B
J4C C
+5V
+12V
-5.2MV
-12V
J4A-9 SH1 … J4A-32 SH1
J4B-10 SH1 … J4B-32 SH1
J4C-9 SH1 … J4C-32 SH1
J5A A
J5B B
J5C C
J5A-2 SH1 RN4 47 14 3
J5A-3 SH1 RN4 47 11 6
J5A-4 SH1 … J5A-27 SH1
J5A-28 SH1 RN6 47 15 2
J5A-29 SH1 RN5 47 15 2
J5A-30 SH1 RN6 47 13 4
J5A-31 SH1 RN5 47 11 6
J5A-32 SH1 RN5 47 9 8
J5B-1 SH1 RN4 47 16 1
J5B-2 SH1 RN4 47 13 4
J5B-3 SH1 RN4 47 10 7
J5B-4 SH1 … J5B-27 SH1
J5B-28 SH1 RN5 47 16 1
J5B-29 SH1 RN5 47 14 3
J5B-30 SH1 RN6 47 12 5
J5B-31 SH1 RN6 47 11 6
J5B-32 SH1 RN5 47 10 7
J5C-1 SH1 RN4 47 15 2
J5C-2 SH1 RN4 47 12 5
J5C-3 SH1 RN4 47 9 8
J5C-4 SH1 … J5C-27 SH1
J5C-28 SH1 RN5 47 16 1
J5C-29 SH1 RN6 47 14 3
J5C-30 SH1 RN5 47 13 4
J5C-31 SH1 RN5 47 12 5
J5C-32 SH1 RN6 47 10 7
J6A A
J6B B
J6C C
J6A-1 SH1 RN6 47 9 8
J6A-2 SH1 RN7 47 15 2
J6A-3 SH1 RN8 47 14 3
J6A-4 SH1 RN7 47 12 5
J6A-5 SH1 RN8 47 11 6
J6A-8 SH1 … J6A-32 SH1
J6B-1 SH1 RN7 47 16 1
J6B-2 SH1 RN8 47 15 2
J6B-3 SH1 RN7 47 13 4
J6B-4 SH1 RN8 47 12 5
J6B-5 SH1 RN7 47 10 7
J6B-6 SH1 RN7 47 9 8
J6B-8 SH1 … J6B-31 SH1
J6C-1 SH1 RN8 47 16 1
J6C-2 SH1 RN7 47 14 3
J6C-3 SH1 RN8 47 13 4
J6C-4 SH1 RN7 47 11 6
J6C-5 SH1 RN8 47 10 7
J6C-6 SH1 RN8 47 9 8
J6C-8 SH1 … J6C-31 SH1
1 2 3 … 32

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X1	——	PLUM	——	——	——		——
A1	W450	JS	11/89	——	——	11-89	——

PILOT RUN RELEASE.

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GRASS VALLEY CALIFORNIA A TEKTRONIX COMPANY

DRAWN PLUM DATE 16MAR89
ENGINEER DL
CHECKED DATE
APPROVED DATE
PILOT RUN REL. ADK 20 NOV 89
PROD REL DATE

SCHEMATIC DIAGRAM
ANALOG INTERFACE

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HOW TO USE THE INTERIOR AND EXTERIOR MOTHERBOARD SCHEMATIC DIAGRAMS

These instructions are intended to help you troubleshoot a signal from its source to its destination(s).

Figure 1 illustrates how signals are routed within the DPM-700. Signals are input through the Exterior Motherboard's BNC and D connectors. The connectors make pad-to-pad connections between the two motherboards. The connectors on the Interior Motherboard then distribute the signals from the Interior Motherboard to various frame modules.

The Exterior Motherboard Schematic Diagram (D10-064717-00) is used to trace signals coming into the Electronics Frame Backplane to the connectors on the Exterior Motherboard.

The Interior Motherboard Schematic Diagram (D10-064716-00) is used to trace board-to-board connections.

The Interior Motherboard Schematic Diagram (D10-064716)

Use the Interior Motherboard Schematic Diagram to troubleshoot when you know a signal's name and the module it is located on. The schematic helps you trace it from its source to its destination(s).

Figure 2 shows where the frame modules connect to the Interior Motherboard and shows each connector's reference number.

1. Locate the problem module on the Interior Motherboard Schematic Diagram. Sheet 1 has connector/pin-out information for the Frame Control Processor Module; Sheet 2, for the optional Second-Channel Digital Video Processor Module; Sheet 3, for the Standard Digital Video Processor Module; Sheet 4, for the Analog Interface Module; and Sheet 5, for Teledyne Interconnection.

3. Scan the correct sheet to locate the signal name. Since, Digital Video modules may be used in two places (for channels 1 and 2), the Motherboard schematic gives a unique name for each channel by adding a 1 or 2 at the end of the original signal name: LVID)(7) becomes LVIDO1(7) and LVIDO2(7).

4. Look to see if the signal name appears on other frame modules. Note that each board labels its motherboard connectors as J1, J2 and J3. However, the Interior Motherboard needs unique names for all twelve connectors. Therefore, on the Interior Motherboard, the twelve connectors are labeled J2 thru J13. (See Figure 2)

The Exterior Motherboard Schematic Diagram (D10-064717)

5. If the signal makes a connection to the outside (Exterior Motherboard), look at sheet 5 (D10-064716) for the motherboard-to-motherboard interconnections, and then to Sheet 1 of D10-064717 to find the actual external connector to which the signal is sourced/destined.

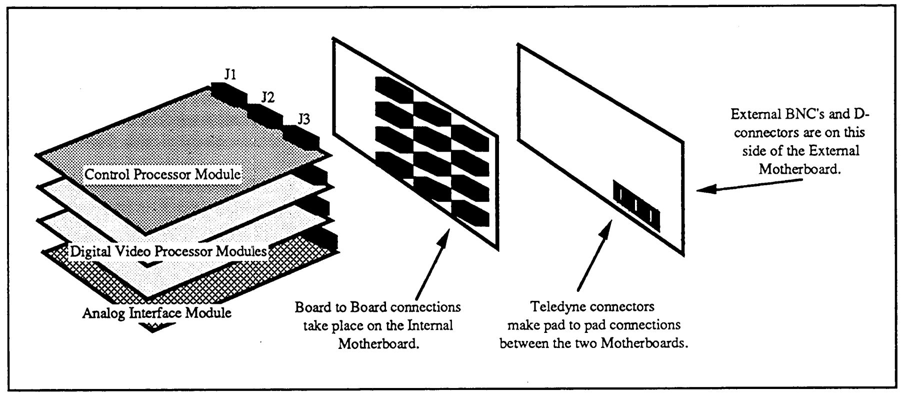
J1
J2
J3
Control Processor Module
Digital Video Processor Modules
Analog Interface Module
Board to Board connections take place on the Internal Motherboard.
Teledyne connectors make pad to pad connections between the two Motherboards.
External BNC's and D-connectors are on this side of the External Motherboard.

Figure 1. How Signals Are Routed Though The Interior And Exterior Motherboards

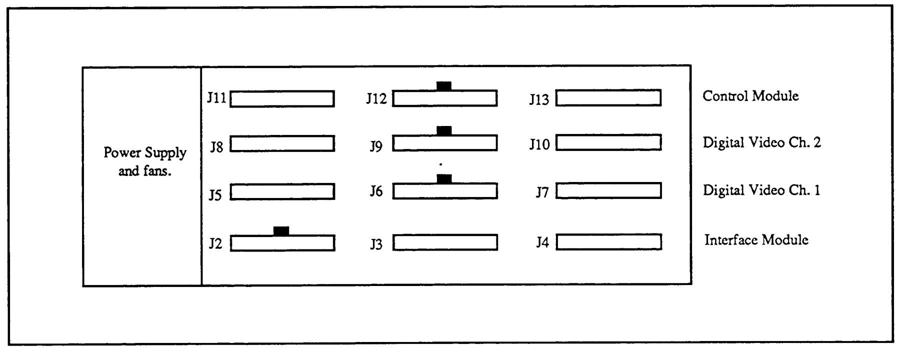
Power Supply and fans.
J11
J12
J13
Control Module
J8
J9
J10
Digital Video Ch. 2
J5
J6
J7
Digital Video Ch. 1
J2
J3
J4
Interface Module

Figure 2. Electronics Frame Connectors Numbering Scheme

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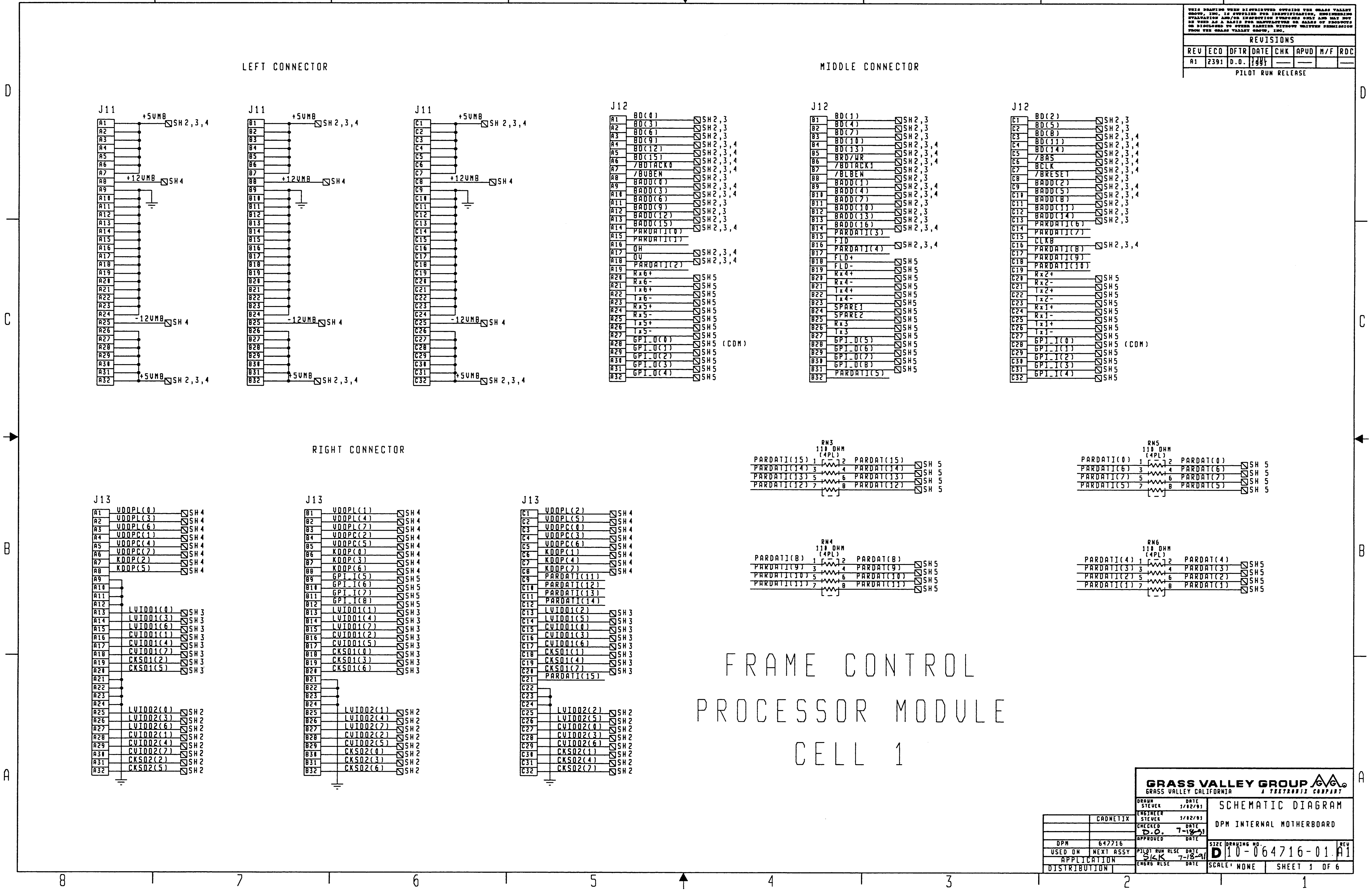
ENGINEER	
CHECKED DATE	
APPROVED DATE	SIZE C
PILOT RUN RLSE DATE	DRAWING NO.
ENGRG RLSE DATE	REV
SCALE:	SHEET 1 OF 1

BRUNING 40-107


LEFT CONNECTOR
J11
+5VMB
SH2,3,4
+12VMB
SH4
-12VMB
SH 4
+5VMB
SH 2,3,4
MIDDLE CONNECTOR
J12
BD(0)
BD(3)
BD(6)
BD(9)
BD(12)
BD(15)
/BDTACK0
/BUBEN
BADD(0)
BADD(3)
BADD(6)
BADD(9)
BADD(12)
BADD(15)
PARDATI(0)
PARDATI(1)
0H
0V
PARDATI(2)
Rx6+
Rx6-
Tx6+
Tx6-
Rx5+
Rx5-
Tx5+
Tx5-
GPI_O(0)
GPI_O(1)
GPI_O(2)
GPI_O(3)
GPI_O(4)
SH2,3
SH2,3,4
SH5
SH5 (COM)
BD(1)
BD(4)
BD(7)
BD(10)
BD(13)
BRD/WR
/BDTACK1
/BLBEN
BADD(1)
BADD(4)
BADD(7)
BADD(10)
BADD(13)
BADD(16)
PARDATI(3)
FID
PARDATI(4)
FLD+
FLD-
Rx4+
Rx4-
Tx4+
Tx4-
SPARE1
SPARE2
Rx3
Tx3
GPI_O(5)
GPI_O(6)
GPI_O(7)
GPI_O(8)
PARDATI(5)
BD(2)
BD(5)
BD(8)
BD(11)
BD(14)
/BAS
BCLK
/BRESET
BADD(2)
BADD(5)
BADD(8)
BADD(11)
BADD(14)
PARDATI(6)
PARDATI(7)
CLK8
PARDATI(8)
PARDATI(9)
PARDATI(10)
Rx2+
Rx2-
Tx2+
Tx2-
Rx1+
Rx1-
Tx1+
Tx1-
GPI_I(0)
GPI_I(1)
GPI_I(2)
GPI_I(3)
GPI_I(4)
RIGHT CONNECTOR
J13
VDOPL(0)
VDOPL(3)
VDOPL(6)
VDOPC(1)
VDOPC(4)
VDOPC(7)
KDOP(2)
KDOP(5)
LVIDO1(0)
LVIDO1(3)
LVIDO1(6)
CVIDO1(1)
CVIDO1(4)
CVIDO1(7)
CKSO1(2)
CKSO1(5)
LVIDO2(0)
LVIDO2(3)
LVIDO2(6)
CVIDO2(1)
CVIDO2(4)
CVIDO2(7)
CKSO2(2)
CKSO2(5)
VDOPL(1)
VDOPL(4)
VDOPL(7)
VDOPC(2)
VDOPC(5)
KDOP(0)
KDOP(3)
KDOP(6)
GPI_I(5)
GPI_I(6)
GPI_I(7)
GPI_I(8)
LVIDO1(1)
LVIDO1(4)
LVIDO1(7)
CVIDO1(2)
CVIDO1(5)
CKSO1(0)
CKSO1(3)
CKSO1(6)
LVIDO2(1)
LVIDO2(4)
LVIDO2(7)
CVIDO2(2)
CVIDO2(5)
CKSO2(0)
CKSO2(3)
CKSO2(6)
VDOPL(2)
VDOPL(5)
VDOPC(0)
VDOPC(3)
VDOPC(6)
KDOP(1)
KDOP(4)
KDOP(7)
PARDATI(11)
PARDATI(12)
PARDATI(13)
PARDATI(14)
LVIDO1(2)
LVIDO1(5)
CVIDO1(0)
CVIDO1(3)
CVIDO1(6)
CKSO1(1)
CKSO1(4)
CKSO1(7)
PARDATI(15)
LVIDO2(2)
LVIDO2(5)
CVIDO2(0)
CVIDO2(3)
CVIDO2(6)
CKSO2(1)
CKSO2(4)
CKSO2(7)
SH4
SH3
SH2
RN3
110 OHM
(4PL)
PARDATI(15)
PARDATI(14)
PARDATI(13)
PARDATI(12)
PARDAT(15)
PARDAT(14)
PARDAT(13)
PARDAT(12)
SH 5
RN4
110 OHM
(4PL)
PARDATI(8)
PARDATI(9)
PARDATI(10)
PARDATI(11)
PARDAT(8)
PARDAT(9)
PARDAT(10)
PARDAT(11)
SH5
RN5
110 OHM
(4PL)
PARDATI(0)
PARDATI(6)
PARDATI(7)
PARDATI(5)
PARDAT(0)
PARDAT(6)
PARDAT(7)
PARDAT(5)
SH 5
RN6
110 OHM
(4PL)
PARDATI(4)
PARDATI(3)
PARDATI(2)
PARDATI(1)
PARDAT(4)
PARDAT(3)
PARDAT(2)
PARDAT(1)
SH5
8
7
6
5
4
3
2
1
D
C
B
A

FRAME CONTROL PROCESSOR MODULE CELL 1

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REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
A1	2391	D.O.	JUL 1991	—	—		—

PILOT RUN RELEASE

GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA *A TEKTRONIX COMPANY*

DRAWN STEVER	DATE 3/02/91
ENGINEER STEVER	3/02/91
CHECKED D.O.	DATE 7-18-91
APPROVED	DATE
PILOT RUN RLSE SLK	DATE 7-18-91
ENGRG RLSE	DATE

SCHEMATIC DIAGRAM

DPM INTERNAL MOTHERBOARD

CADNETIX

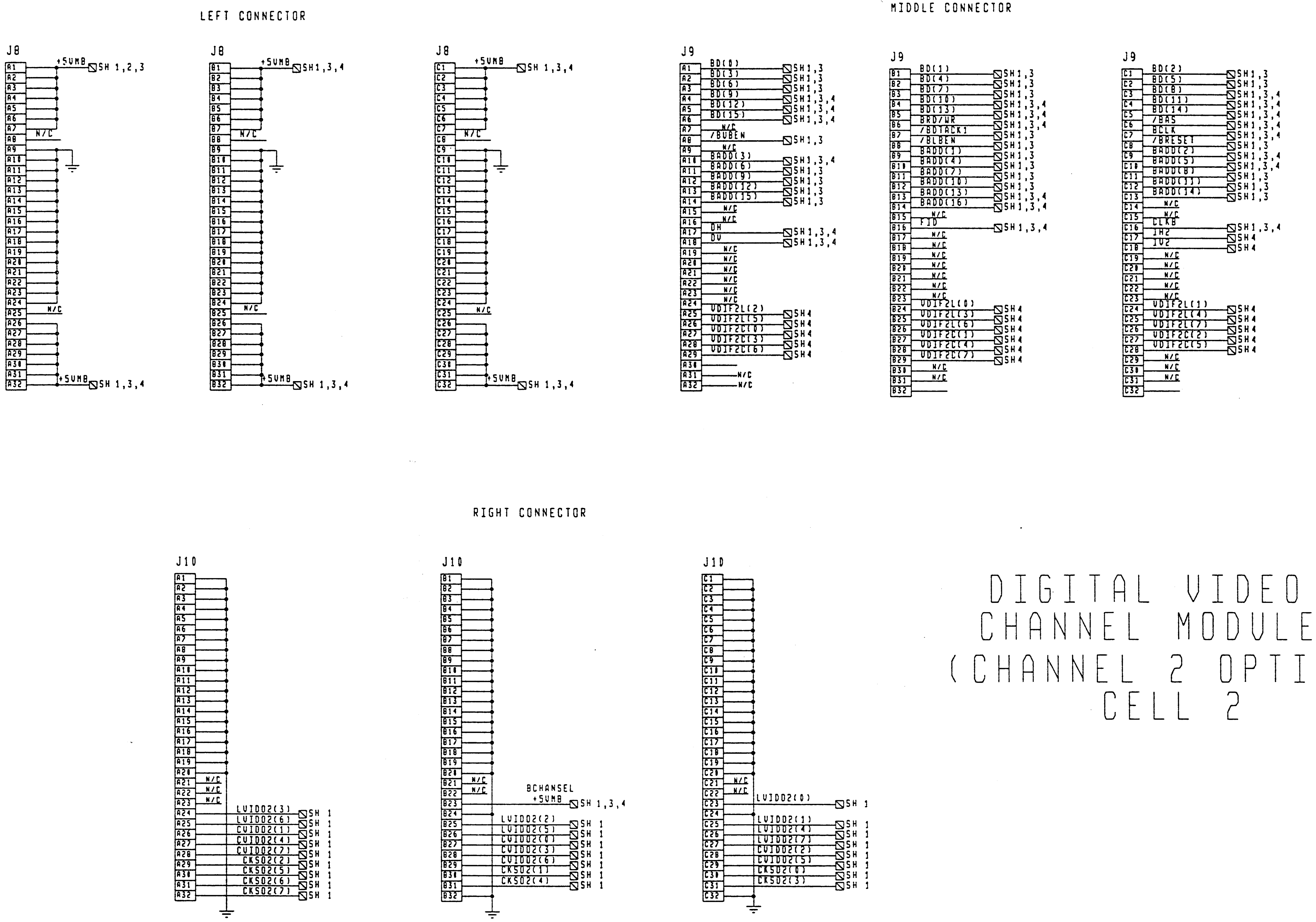
DPM	647716
USED ON	NEXT ASSY

APPLICATION
DISTRIBUTION

SIZE D DRAWING NO. 10-064716-01 REV A1

SCALE: NONE SHEET 1 OF 6

SEE SHEET 1 FOR REVISIONS


LEFT CONNECTOR
J8
A1–A32
+5VMB SH 1,2,3
N/C
+5VMB SH 1,3,4
J8
B1–B32
+5VMB SH1,3,4
N/C
+5VMB SH 1,3,4
J8
C1–C32
+5VMB SH 1,3,4
N/C
+5VMB SH 1,3,4
MIDDLE CONNECTOR
J9
A1 BD(0) SH1,3
A2 BD(3) SH1,3
A3 BD(6) SH1,3
A4 BD(9) SH1,3,4
A5 BD(12) SH1,3,4
A6 BD(15) SH1,3,4
A7 N/C
A8 /BUBEN SH1,3
A9 N/C
A10 BADD(3) SH1,3,4
A11 BADD(6) SH1,3
A12 BADD(9) SH1,3
A13 BADD(12) SH1,3
A14 BADD(15) SH1,3
A15 N/C
A16 N/C
A17 DH SH1,3,4
A18 DV SH1,3,4
A19–A24 N/C
A25 VDIF2L(2) SH4
A26 VDIF2L(5) SH4
A27 VDIF2C(0) SH4
A28 VDIF2C(3) SH4
A29 VDIF2C(6) SH4
A30
A31 N/C
A32 N/C
J9
B1 BD(1) SH1,3
B2 BD(4) SH1,3
B3 BD(7) SH1,3
B4 BD(10) SH1,3,4
B5 BD(13) SH1,3,4
B6 BRD/WR SH1,3,4
B7 /BDTACK1 SH1,3
B8 /BLBEN SH1,3
B9 BADD(1) SH1,3
B10 BADD(4) SH1,3
B11 BADD(7) SH1,3
B12 BADD(10) SH1,3
B13 BADD(13) SH1,3,4
B14 BADD(16) SH1,3,4
B15 N/C
B16 FID SH1,3,4
B17–B23 N/C
B24 VDIF2L(0) SH4
B25 VDIF2L(3) SH4
B26 VDIF2L(6) SH4
B27 VDIF2C(1) SH4
B28 VDIF2C(4) SH4
B29 VDIF2C(7) SH4
B30 N/C
B31 N/C
B32
J9
C1 BD(2) SH1,3
C2 BD(5) SH1,3
C3 BD(8) SH1,3,4
C4 BD(11) SH1,3,4
C5 BD(14) SH1,3,4
C6 /BAS SH1,3,4
C7 BCLK SH1,3,4
C8 /BRESET SH1,3
C9 BADD(2) SH1,3,4
C10 BADD(5) SH1,3,4
C11 BADD(8) SH1,3
C12 BADD(11) SH1,3
C13 BADD(14) SH1,3
C14 N/C
C15 N/C
C16 CLKB SH1,3,4
C17 IH2 SH4
C18 IV2 SH4
C19–C23 N/C
C24 VDIF2L(1) SH4
C25 VDIF2L(4) SH4
C26 VDIF2L(7) SH4
C27 VDIF2C(2) SH4
C28 VDIF2C(5) SH4
C29 N/C
C30 N/C
C31 N/C
C32
RIGHT CONNECTOR
J10
A1–A20
A21 N/C
A22 N/C
A23 N/C
A24 LVIDO2(3) SH 1
A25 LVIDO2(6) SH 1
A26 CVIDO2(1) SH 1
A27 CVIDO2(4) SH 1
A28 CVIDO2(7) SH 1
A29 CKSO2(2) SH 1
A30 CKSO2(5) SH 1
A31 CKSO2(6) SH 1
A32 CKSO2(7) SH 1
J10
B1–B20
B21 N/C
B22 N/C
B23 BCHANSEL +5VMB SH 1,3,4
B24
B25 LVIDO2(2) SH 1
B26 LVIDO2(5) SH 1
B27 CVIDO2(0) SH 1
B28 CVIDO2(3) SH 1
B29 CVIDO2(6) SH 1
B30 CKSO2(1) SH 1
B31 CKSO2(4) SH 1
B32
J10
C1–C20
C21 N/C
C22 N/C
C23 LVIDO2(0) SH 1
C24
C25 LVIDO2(1) SH 1
C26 LVIDO2(4) SH 1
C27 LVIDO2(7) SH 1
C28 CVIDO2(2) SH 1
C29 CVIDO2(5) SH 1
C30 CKSO2(0) SH 1
C31 CKSO2(3) SH 1
C32

DIGITAL VIDEO
CHANNEL MODULE
(CHANNEL 2 OPTION)
CELL 2

GRASS VALLEY GROUP

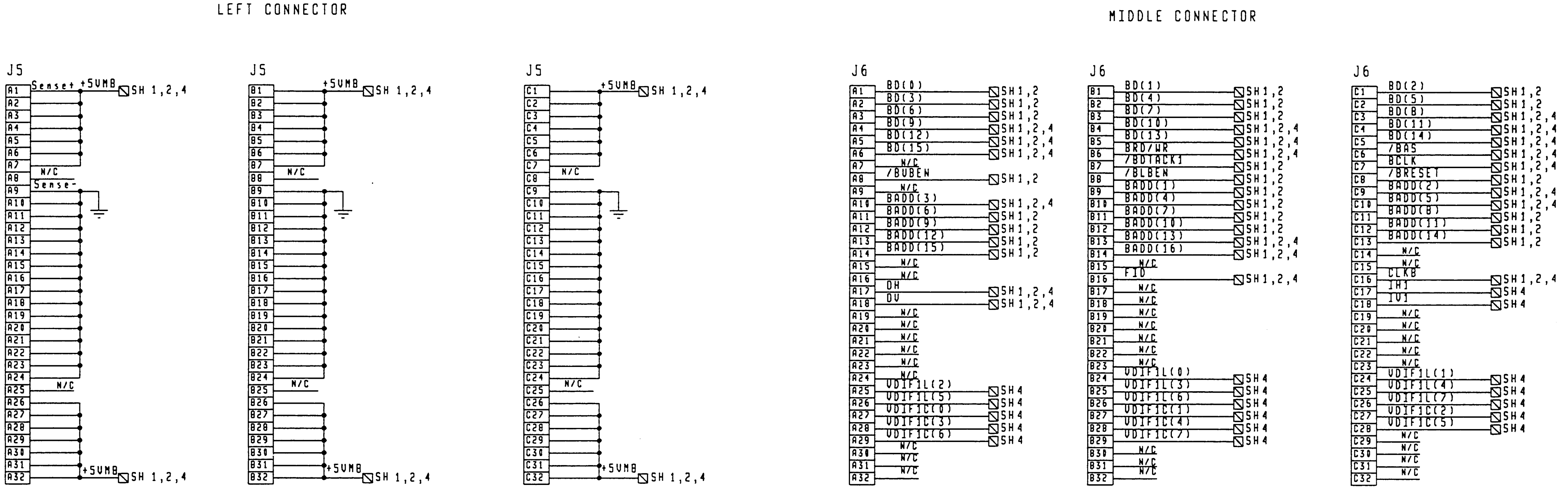
SCHEMATIC DIAGRAM

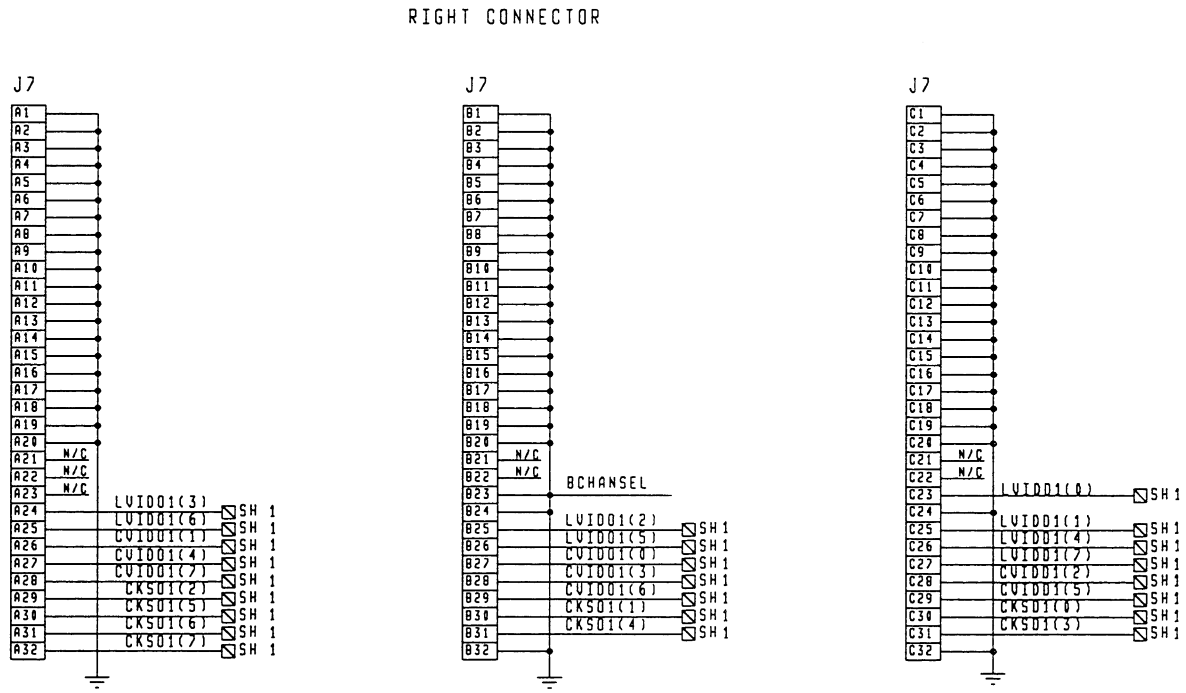
DPM INTERNAL MOTHERBOARD

SIZE	DRAWING NO.	REV
D	10-064716-01	A1

SCALE: NONE | SHEET 2 OF 6

SEE SHEET 1 FOR REVISIONS


LEFT CONNECTOR
J5
Sense+
+5VMB
SH 1,2,4
N/C
Sense-
MIDDLE CONNECTOR
J6
BD(0) SH1,2
BD(3) SH1,2
BD(6) SH1,2
BD(9) SH1,2,4
BD(12) SH1,2,4
BD(15) SH1,2,4
/BUBEN SH1,2
BADD(3) SH1,2,4
BADD(6) SH1,2
BADD(9) SH1,2
BADD(12) SH1,2
BADD(15) SH1,2
DH SH1,2,4
DV SH1,2,4
VDIF1L(2) SH4
VDIF1L(5) SH4
VDIF1C(0) SH4
VDIF1C(3) SH4
VDIF1C(6) SH4
BD(1) SH1,2
BD(4) SH1,2
BD(7) SH1,2
BD(10) SH1,2,4
BD(13) SH1,2,4
BRD/WR SH1,2,4
/BDTACK1 SH1,2,4
/BLBEN SH1,2
BADD(1) SH1,2
BADD(4) SH1,2
BADD(7) SH1,2
BADD(10) SH1,2
BADD(13) SH1,2,4
BADD(16) SH1,2,4
FID SH1,2,4
VDIF1L(0) SH4
VDIF1L(3) SH4
VDIF1L(6) SH4
VDIF1C(1) SH4
VDIF1C(4) SH4
VDIF1C(7) SH4
BD(2) SH1,2
BD(5) SH1,2
BD(8) SH1,2,4
BD(11) SH1,2,4
BD(14) SH1,2,4
/BAS SH1,2,4
BCLK SH1,2,4
/BRESET SH1,2
BADD(2) SH1,2,4
BADD(5) SH1,2,4
BADD(8) SH1,2
BADD(11) SH1,2
BADD(14) SH1,2
CLKB SH1,2,4
IH1 SH4
IV1 SH4
VDIF1L(1) SH4
VDIF1L(4) SH4
VDIF1L(7) SH4
VDIF1C(2) SH4
VDIF1C(5) SH4

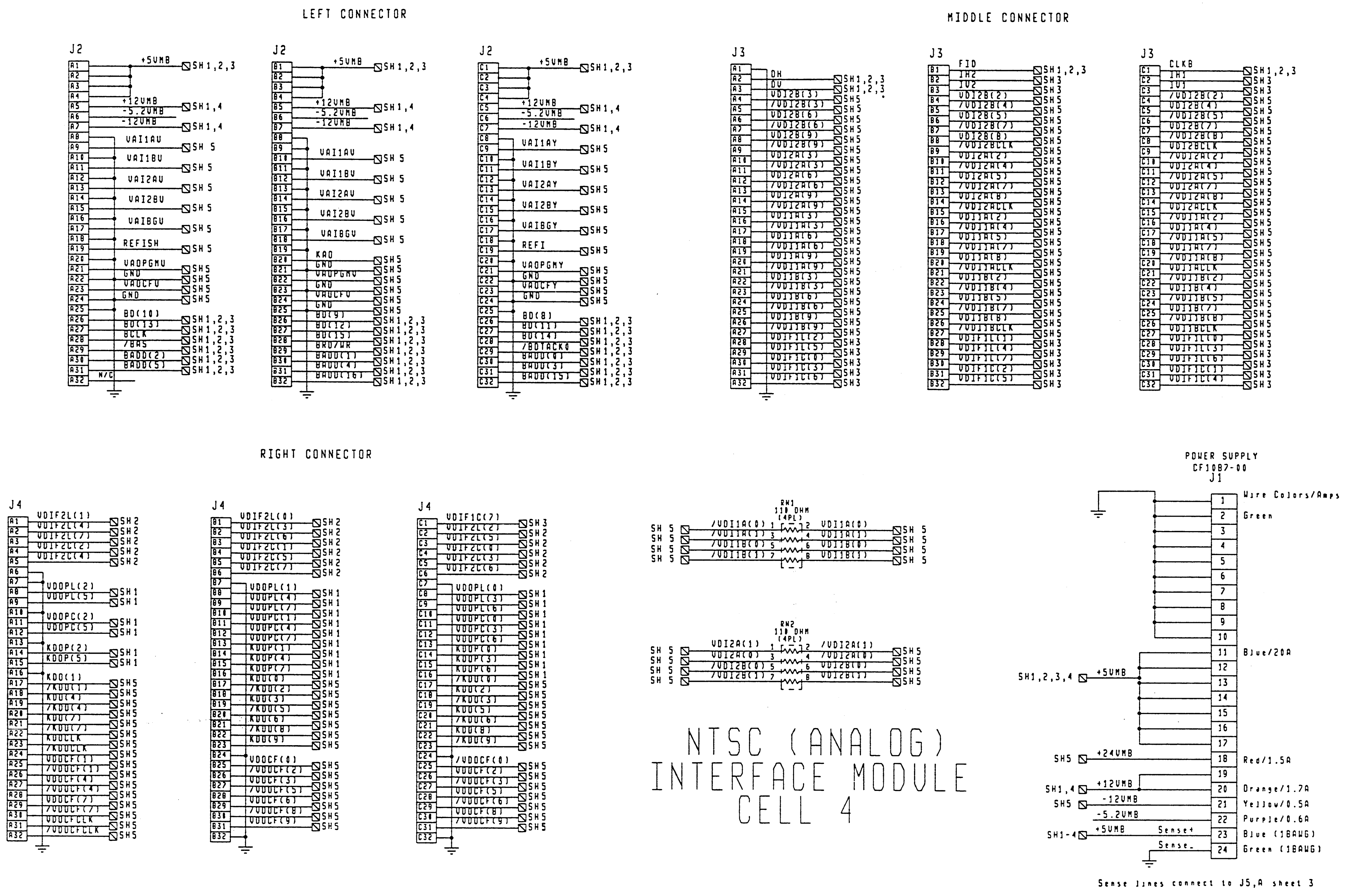

RIGHT CONNECTOR
J7
N/C
LVID01(3) SH 1
LVID01(6) SH 1
CVID01(1) SH 1
CVID01(4) SH 1
CVID01(7) SH 1
CKS01(2) SH 1
CKS01(5) SH 1
CKS01(6) SH 1
CKS01(7) SH 1
BCHANSEL
LVID01(2)
LVID01(5) SH1
CVID01(0) SH1
CVID01(3) SH1
CVID01(6) SH1
CKS01(1) SH1
CKS01(4) SH1
LVID01(0) SH1
LVID01(1)
LVID01(4) SH1
LVID01(7) SH1
CVID01(2) SH1
CVID01(5) SH1
CKS01(0) SH1
CKS01(3) SH1

DIGITAL VIDEO
CHANNEL MODULE
(CHANNEL 1)
CELL 3

GRASS VALLEY GROUP
SCHEMATIC DIAGRAM
DPM INTERNAL MOTHERBOARD
SIZE D DRAWING NO. 10-064716-01 REV A1
SCALE: NONE SHEET 3 OF 6

SEE SHEET 1 FOR REVISIONS

NTSC (ANALOG) INTERFACE MODULE CELL 4


LEFT CONNECTOR
J2
A1 A2 A3 A4 A5 A6 A7 A8 A9 A10 A11 A12 A13 A14 A15 A16 A17 A18 A19 A20 A21 A22 A23 A24 A25 A26 A27 A28 A29 A30 A31 A32
+5VMB SH1,2,3
+12VMB SH1,4
-5.2VMB
-12VMB SH1,4
VAI1AV SH 5
VAI1BV SH 5
VAI2AV SH 5
VAI2BV SH 5
VAIBGV SH 5
REFISH SH 5
VAOPGMV SH5
GND SH5
VAOCFV SH5
GND SH5
BD(10) SH1,2,3
BD(13) SH1,2,3
BCLK SH1,2,3
/BAS SH1,2,3
BADD(2) SH1,2,3
BADD(5) SH1,2,3
N/C
J2
B1 B2 B3 B4 B5 B6 B7 B8 B9 B10 B11 B12 B13 B14 B15 B16 B17 B18 B19 B20 B21 B22 B23 B24 B25 B26 B27 B28 B29 B30 B31 B32
+5VMB SH1,2,3
+12VMB SH1,4
-5.2VMB
-12VMB SH1,4
VAI1AV SH 5
VAI1BV SH 5
VAI2AV SH 5
VAI2BV SH 5
VAIBGV SH 5
KAO SH5
GND SH5
VAOPGMV SH5
GND SH5
VAOCFV SH5
GND SH5
BD(9) SH1,2,3
BD(12) SH1,2,3
BD(15) SH1,2,3
BRD/WR SH1,2,3
BADD(1) SH1,2,3
BADD(4) SH1,2,3
BADD(16) SH1,2,3
J2
C1 C2 C3 C4 C5 C6 C7 C8 C9 C10 C11 C12 C13 C14 C15 C16 C17 C18 C19 C20 C21 C22 C23 C24 C25 C26 C27 C28 C29 C30 C31 C32
+5VMB SH1,2,3
+12VMB SH1,4
-5.2VMB
-12VMB SH1,4
VAI1AY SH5
VAI1BY SH5
VAI2AY SH5
VAI2BY SH5
VAIBGY SH5
REFI SH5
VAOPGMY SH5
GND SH5
VAOCFY SH5
GND SH5
BD(8) SH1,2,3
BD(11) SH1,2,3
BD(14) SH1,2,3
/BDTACK0 SH1,2,3
BADD(0) SH1,2,3
BADD(3) SH1,2,3
BADD(15) SH1,2,3
MIDDLE CONNECTOR
J3
A1 A2 A3 A4 A5 A6 A7 A8 A9 A10 A11 A12 A13 A14 A15 A16 A17 A18 A19 A20 A21 A22 A23 A24 A25 A26 A27 A28 A29 A30 A31 A32
DH SH1,2,3
DV SH1,2,3
VDI2B(3) SH5
/VDI2B(3) SH5
VDI2B(6) SH5
/VDI2B(6) SH5
VDI2B(9) SH5
/VDI2B(9) SH5
VDI2A(3) SH5
/VDI2A(3) SH5
VDI2A(6) SH5
/VDI2A(6) SH5
VDI2A(9) SH5
/VDI2A(9) SH5
VDI1A(3) SH5
/VDI1A(3) SH5
VDI1A(6) SH5
/VDI1A(6) SH5
VDI1A(9) SH5
/VDI1A(9) SH5
VDI1B(3) SH5
/VDI1B(3) SH5
VDI1B(6) SH5
/VDI1B(6) SH5
VDI1B(9) SH5
/VDI1B(9) SH5
VDIF1L(2) SH3
VDIF1L(5) SH3
VDIF1C(0) SH3
VDIF1C(3) SH3
VDIF1C(6) SH3
SH3
J3
B1 B2 B3 B4 B5 B6 B7 B8 B9 B10 B11 B12 B13 B14 B15 B16 B17 B18 B19 B20 B21 B22 B23 B24 B25 B26 B27 B28 B29 B30 B31 B32
FID SH1,2,3
IH2 SH3
IV2 SH3
VDI2B(2) SH5
/VDI2B(4) SH5
VDI2B(5) SH5
/VDI2B(7) SH5
VDI2B(8) SH5
/VDI2BCLK SH5
VDI2A(2) SH5
/VDI2A(4) SH5
VDI2A(5) SH5
/VDI2A(7) SH5
VDI2A(8) SH5
/VDI2ACLK SH5
VDI1A(2) SH5
/VDI1A(4) SH5
VDI1A(5) SH5
/VDI1A(7) SH5
VDI1A(8) SH5
/VDI1ACLK SH5
VDI1B(2) SH5
/VDI1B(4) SH5
VDI1B(5) SH5
/VDI1B(7) SH5
VDI1B(8) SH5
/VDI1BCLK SH5
VDIF1L(1) SH3
VDIF1L(4) SH3
VDIF1L(7) SH3
VDIF1C(2) SH3
VDIF1C(5) SH3
J3
C1 C2 C3 C4 C5 C6 C7 C8 C9 C10 C11 C12 C13 C14 C15 C16 C17 C18 C19 C20 C21 C22 C23 C24 C25 C26 C27 C28 C29 C30 C31 C32
CLKB SH1,2,3
IH1 SH3
IV1 SH3
/VDI2B(2) SH5
VDI2B(4) SH5
/VDI2B(5) SH5
VDI2B(7) SH5
/VDI2B(8) SH5
VDI2BCLK SH5
/VDI2A(2) SH5
VDI2A(4) SH5
/VDI2A(5) SH5
VDI2A(7) SH5
/VDI2A(8) SH5
VDI2ACLK SH5
/VDI1A(2) SH5
VDI1A(4) SH5
/VDI1A(5) SH5
VDI1A(7) SH5
/VDI1A(8) SH5
VDI1ACLK SH5
/VDI1B(2) SH5
VDI1B(4) SH5
/VDI1B(5) SH5
VDI1B(7) SH5
/VDI1B(8) SH5
VDI1BCLK SH5
VDIF1L(0) SH3
VDIF1L(3) SH3
VDIF1L(6) SH3
VDIF1C(1) SH3
VDIF1C(4) SH3
RIGHT CONNECTOR
J4
A1 A2 A3 A4 A5 A6 A7 A8 A9 A10 A11 A12 A13 A14 A15 A16 A17 A18 A19 A20 A21 A22 A23 A24 A25 A26 A27 A28 A29 A30 A31 A32
VDIF2L(1) SH2
VDIF2L(4) SH2
VDIF2L(7) SH2
VDIF2C(2) SH2
VDIF2C(4) SH2
VDOPL(2) SH1
VDOPL(5) SH1
VDOPC(2) SH1
VDOPC(5) SH1
KDOP(2) SH1
KDOP(5) SH1
KDO(1) SH5
/KDO(1) SH5
KDO(4) SH5
/KDO(4) SH5
KDO(7) SH5
/KDO(7) SH5
KDOCLK SH5
/KDOCLK SH5
VDOCF(1) SH5
/VDOCF(1) SH5
VDOCF(4) SH5
/VDOCF(4) SH5
VDOCF(7) SH5
/VDOCF(7) SH5
VDOCFCLK SH5
/VDOCFCLK SH5
J4
B1 B2 B3 B4 B5 B6 B7 B8 B9 B10 B11 B12 B13 B14 B15 B16 B17 B18 B19 B20 B21 B22 B23 B24 B25 B26 B27 B28 B29 B30 B31 B32
VDIF2L(0) SH2
VDIF2L(3) SH2
VDIF2L(6) SH2
VDIF2C(1) SH2
VDIF2C(5) SH2
VDIF2C(7) SH2
VDOPL(1) SH1
VDOPL(4) SH1
VDOPL(7) SH1
VDOPC(1) SH1
VDOPC(4) SH1
VDOPC(7) SH1
KDOP(1) SH1
KDOP(4) SH1
KDOP(7) SH1
KDO(0) SH5
/KDO(2) SH5
KDO(3) SH5
/KDO(5) SH5
KDO(6) SH5
/KDO(8) SH5
KDO(9) SH5
VDOCF(0) SH5
/VDOCF(2) SH5
VDOCF(3) SH5
/VDOCF(5) SH5
VDOCF(6) SH5
/VDOCF(8) SH5
VDOCF(9) SH5
J4
C1 C2 C3 C4 C5 C6 C7 C8 C9 C10 C11 C12 C13 C14 C15 C16 C17 C18 C19 C20 C21 C22 C23 C24 C25 C26 C27 C28 C29 C30 C31 C32
VDIF1C(7) SH3
VDIF2L(2) SH2
VDIF2L(5) SH2
VDIF2C(0) SH2
VDIF2C(3) SH2
VDIF2C(6) SH2
VDOPL(0) SH1
VDOPL(3) SH1
VDOPL(6) SH1
VDOPC(0) SH1
VDOPC(3) SH1
VDOPC(6) SH1
KDOP(0) SH1
KDOP(3) SH1
KDOP(6) SH1
/KDO(0) SH5
KDO(2) SH5
/KDO(3) SH5
KDO(5) SH5
/KDO(6) SH5
KDO(8) SH5
/KDO(9) SH5
/VDOCF(0) SH5
VDOCF(2) SH5
/VDOCF(3) SH5
VDOCF(5) SH5
/VDOCF(6) SH5
VDOCF(8) SH5
/VDOCF(9) SH5
RN1
110 OHM
(4PL)
SH 5 /VDI1A(0) 1 2 VDI1A(0) SH 5
SH 5 /VDI1A(1) 3 4 VDI1A(1) SH 5
SH 5 /VDI1B(0) 5 6 VDI1B(0) SH 5
SH 5 /VDI1B(1) 7 8 VDI1B(1) SH 5
RN2
110 OHM
(4PL)
SH 5 VDI2A(1) 1 2 /VDI2A(1) SH5
SH 5 VDI2A(0) 3 4 /VDI2A(0) SH5
SH 5 /VDI2B(0) 5 6 VDI2B(0) SH5
SH 5 /VDI2B(1) 7 8 VDI2B(1) SH5
POWER SUPPLY
CF1087-00
J1
Wire Colors/Amps
1
2 Green
3
4
5
6
7
8
9
10
11 Blue/20A
SH1,2,3,4 +5VMB
12
13
14
15
16
17
SH5 +24VMB 18 Red/1.5A
19
SH1,4 +12VMB 20 Orange/1.7A
SH5 -12VMB 21 Yellow/0.5A
-5.2VMB 22 Purple/0.6A
SH1-4 +5VMB Sense+ 23 Blue (18AWG)
Sense- 24 Green (18AWG)
Sense lines connect to J5,A sheet 3

GRASS VALLEY GROUP

SCHEMATIC DIAGRAM

DPM INTERNAL MOTHERBOARD

SIZE	DRAWING NO.	REV
D	10-064716-01	A1

SCALE: NONE | SHEET 4 OF 6

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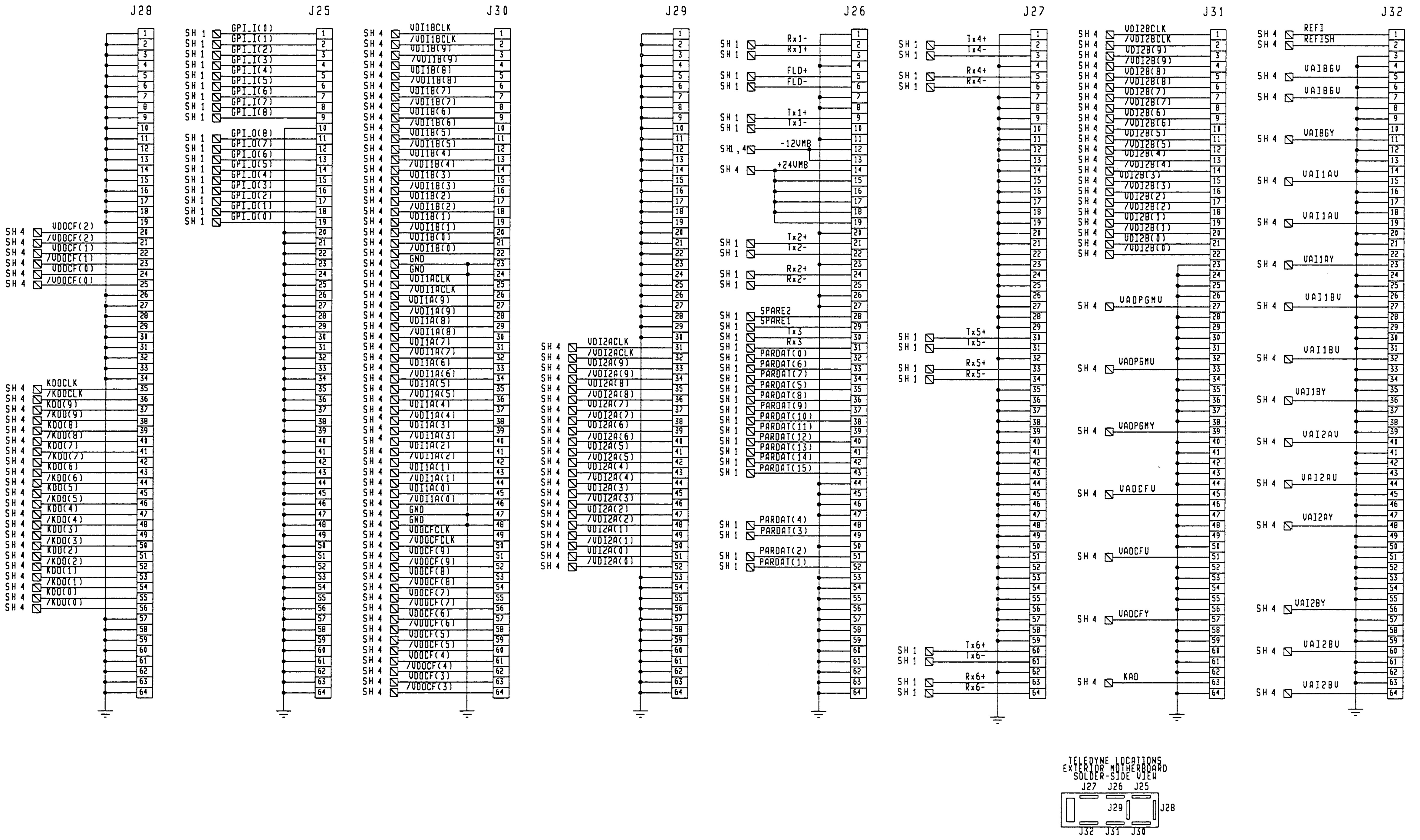
J28
VDOCF(2)
/VDOCF(2)
VDOCF(1)
/VDOCF(1)
VDOCF(0)
/VDOCF(0)
KDOCLK
/KDOCLK
KDO(9)
/KDO(9)
KDO(8)
/KDO(8)
KDO(7)
/KDO(7)
KDO(6)
/KDO(6)
KDO(5)
/KDO(5)
KDO(4)
/KDO(4)
KDO(3)
/KDO(3)
KDO(2)
/KDO(2)
KDO(1)
/KDO(1)
KDO(0)
/KDO(0)
J25
GPI_I(0)
GPI_I(1)
GPI_I(2)
GPI_I(3)
GPI_I(4)
GPI_I(5)
GPI_I(6)
GPI_I(7)
GPI_I(8)
GPI_O(8)
GPI_O(7)
GPI_O(6)
GPI_O(5)
GPI_O(4)
GPI_O(3)
GPI_O(2)
GPI_O(1)
GPI_O(0)
J30
VDI1BCLK
/VDI1BCLK
VDI1B(9)
/VDI1B(9)
VDI1A(9)
GND
VDI1ACLK
/VDI1ACLK
VDOCFCLK
/VDOCFCLK
VDOCF(9)
/VDOCF(3)
J29
VDI2ACLK
/VDI2ACLK
VDI2A(9)
/VDI2A(0)
J26
Rx1-
Rx1+
FLD+
FLD-
Tx1+
Tx1-
-12VMB
+24VMB
Tx2+
Tx2-
Rx2+
Rx2-
SPARE2
SPARE1
Tx3
Rx3
PARDAT(0)
PARDAT(15)
PARDAT(4)
PARDAT(3)
PARDAT(2)
PARDAT(1)
J27
Tx4+
Tx4-
Rx4+
Rx4-
Tx5+
Tx5-
Rx5+
Rx5-
Tx6+
Tx6-
Rx6+
Rx6-
J31
VDI2BCLK
/VDI2BCLK
VDI2B(9)
/VDI2B(0)
VADPGMV
VADPGMU
VADPGMY
VADCFV
VADCFU
VADCFY
KAD
J32
REFI
REFISH
VAIBGV
VAIBGU
VAIBGY
VAI1AV
VAI1AU
VAI1AY
VAI1BV
VAI1BU
VAI1BY
VAI2AV
VAI2AU
VAI2AY
VAI2BY
VAI2BU
VAI2BV
SH 1
SH 4
TELEDYNE LOCATIONS
EXTERIOR MOTHERBOARD
SOLDER-SIDE VIEW
J27 J26 J25
J29
J28
J32 J31 J30

GRASS VALLEY GROUP

SCHEMATIC DIAGRAM

DPM INTERNAL MOTHERBOARD

SIZE	DRAWING NO.	REV
D	10-064716-01	A1

SCALE: NONE SHEET 5 OF 6

SEE SHEET 1 FOR REVISIONS

Net name to page:

+12VMB	1,4	+24VMB	4,5	+5VMB	1,2,3,4	-12VMB	1,4,5
-5.2VMB	4	/BAS	1,2,3,4	/BDTACK0	1,4	/BDTACK1	1,2,3
/BLBEN	1,2,3	/BRESET	1,2,3	/BUBEN	1,2,3	/KDO(0)	4,5
/KDO(1)	4,5	/KDO(2)	4,5	/KDO(3)	4,5	/KDO(4)	4,5
/KDO(5)	4,5	/KDO(6)	4,5	/KDO(7)	4,5	/KDO(8)	4,5
/KDO(9)	4,5	/KDOCLK	4,5	/VDI1A(0)	4,5	/VDI1A(1)	4,5
/VDI1A(2)	4,5	/VDI1A(3)	4,5	/VDI1A(4)	4,5	/VDI1A(5)	4,5
/VDI1A(6)	4,5	/VDI1A(7)	4,5	/VDI1A(8)	4,5	/VDI1A(9)	4,5
/VDI1ACLK	4,5	/VDI1B(0)	4,5	/VDI1B(1)	4,5	/VDI1B(2)	4,5
/VDI1B(3)	4,5	/VDI1B(4)	4,5	/VDI1B(5)	4,5	/VDI1B(6)	4,5
/VDI1B(7)	4,5	/VDI1B(8)	4,5	/VDI1B(9)	4,5	/VDI1BCLK	4,5
/VDI2A(0)	4,5	/VDI2A(1)	4,5	/VDI2A(2)	4,5	/VDI2A(3)	4,5
/VDI2A(4)	4,5	/VDI2A(5)	4,5	/VDI2A(6)	4,5	/VDI2A(7)	4,5
/VDI2A(8)	4,5	/VDI2A(9)	4,5	/VDI2ACLK	4,5	/VDI2B(0)	4,5
/VDI2B(1)	4,5	/VDI2B(2)	4,5	/VDI2B(3)	4,5	/VDI2B(4)	4,5
/VDI2B(5)	4,5	/VDI2B(6)	4,5	/VDI2B(7)	4,5	/VDI2B(8)	4,5
/VDI2B(9)	4,5	/VDI2BCLK	4,5	/VDOCF(0)	4,5	/VDOCF(1)	4,5
/VDOCF(2)	4,5	/VDOCF(3)	4,5	/VDOCF(4)	4,5	/VDOCF(5)	4,5
/VDOCF(6)	4,5	/VDOCF(7)	4,5	/VDOCF(8)	4,5	/VDOCF(9)	4,5
/VDOCFCLK	4,5	BADD(0)	1,4	BADD(1)	1,2,3,4	BADD(10)	1,2,3
BADD(11)	1,2,3	BADD(12)	1,2,3	BADD(13)	1,2,3	BADD(14)	1,2,3
BADD(15)	1,2,3,4	BADD(16)	1,2,3,4	BADD(2)	1,2,3,4	BADD(3)	1,2,3,4
BADD(4)	1,2,3,4	BADD(5)	1,2,3,4	BADD(6)	1,2,3	BADD(7)	1,2,3
BADD(8)	1,2,3	BADD(9)	1,2,3	BCLK	1,2,3,4	BD(0)	1,2,3
BD(1)	1,2,3	BD(10)	1,2,3,4	BD(11)	1,2,3,4	BD(12)	1,2,3,4
BD(13)	1,2,3,4	BD(14)	1,2,3,4	BD(15)	1,2,3,4	BD(2)	1,2,3
BD(3)	1,2,3	BD(4)	1,2,3	BD(5)	1,2,3	BD(6)	1,2,3
BD(7)	1,2,3	BD(8)	1,2,3,4	BD(9)	1,2,3,4	BRD/WR	1,2,3,4
CKSO1(0)	1,3	CKSO1(1)	1,3	CKSO1(2)	1,3	CKSO1(3)	1,3
CKSO1(4)	1,3	CKSO1(5)	1,3	CKSO1(6)	1,3	CKSO1(7)	1,3
CKSO2(0)	1,2	CKSO2(1)	1,2	CKSO2(2)	1,2	CKSO2(3)	1,2
CKSO2(4)	1,2	CKSO2(5)	1,2	CKSO2(6)	1,2	CKSO2(7)	1,2
CLKB	1,2,3,4	CVIDO1(0)	1,3	CVIDO1(1)	1,3	CVIDO1(2)	1,3
CVIDO1(3)	1,3	CVIDO1(4)	1,3	CVIDO1(5)	1,3	CVIDO1(6)	1,3
CVIDO1(7)	1,3	CVIDO2(0)	1,2	CVIDO2(1)	1,2	CVIDO2(2)	1,2
CVIDO2(3)	1,2	CVIDO2(4)	1,2	CVIDO2(5)	1,2	CVIDO2(6)	1,2
CVIDO2(7)	1,2	FID	1,2,3,4	FLD+	1,5	FLD-	1,5
GND	1,2,3,4,5	GPI_I(0)	1,5	GPI_I(1)	1,5	GPI_I(2)	1,5
GPI_I(3)	1,5	GPI_I(4)	1,5	GPI_I(5)	1,5	GPI_I(6)	1,5
GPI_I(7)	1,5	GPI_I(8)	1,5	GPI_O(0)	1,5	GPI_O(1)	1,5
GPI_O(2)	1,5	GPI_O(3)	1,5	GPI_O(4)	1,5	GPI_O(5)	1,5
GPI_O(6)	1,5	GPI_O(7)	1,5	GPI_O(8)	1,5	IH1	3,4
IH2	2,4	IV1	3,4	IV2	2,4	KAO	4,5
KDO(0)	4,5	KDO(1)	4,5	KDO(2)	4,5	KDO(3)	4,5
KDO(4)	4,5	KDO(5)	4,5	KDO(6)	4,5	KDO(7)	4,5
KDO(8)	4,5	KDO(9)	4,5	KDOCLK	4,5	KDOP(0)	1,4
KDOP(1)	1,4	KDOP(2)	1,4	KDOP(3)	1,4	KDOP(4)	1,4
KDOP(5)	1,4	KDOP(6)	1,4	KDOP(7)	1,4	LVIDO1(0)	1,3
LVIDO1(1)	1,3	LVIDO1(2)	1,3	LVIDO1(3)	1,3	LVIDO1(4)	1,3
LVIDO1(5)	1,3	LVIDO1(6)	1,3	LVIDO1(7)	1,3	LVIDO2(0)	1,2
LVIDO2(1)	1,2	LVIDO2(2)	1,2	LVIDO2(3)	1,2	LVIDO2(4)	1,2
LVIDO2(5)	1,2	LVIDO2(6)	1,2	LVIDO2(7)	1,2	OH	1,2,3,4
OV	1,2,3,4	PARDAT(0)	1,5	PARDAT(1)	1,5	PARDAT(10)	1,5
PARDAT(11)	1,5	PARDAT(12)	1,5	PARDAT(13)	1,5	PARDAT(14)	1,5
PARDAT(15)	1,5	PARDAT(2)	1,5	PARDAT(3)	1,5	PARDAT(4)	1,5
PARDAT(5)	1,5	PARDAT(6)	1,5	PARDAT(7)	1,5	PARDAT(8)	1,5
PARDAT(9)	1,5	REFI	4,5	REFISH	4,5	Rx1+	1,5
Rx1-	1,5	Rx2+	1,5	Rx2-	1,5	Rx3	1,5
Rx4+	1,5	Rx4-	1,5	Rx5+	1,5	Rx5-	1,5
Rx6+	1,5	Rx6-	1,5	SPARE 1	1,5	SPARE 2	1,5
Tx1+	1,5	Tx1-	1,5	Tx2+	1,5	Tx2-	1,5
Tx3	1,5	Tx4+	1,5	Tx4-	1,5	Tx5+	1,5
Tx5-	1,5	Tx6+	1,5	Tx6-	1,5	VAI1AU	4,5
VAI1AV	4,5	VAI1AY	4,5	VAI1BU	4,5	VAI1BV	4,5
VAI1BY	4,5	VAI2AU	4,5	VAI2AV	4,5	VAI2AY	4,5
VAI2BU	4,5	VAI2BV	4,5	VAI2BY	4,5	VAIBGU	4,5
VAIBGV	4,5	VAIBGY	4,5	VAOCFU	4,5	VAOCFV	4,5
VAOCFY	4,5	VAOPGMU	4,5	VAOPGMV	4,5	VAOPGMY	4,5
VDI1A(0)	4,5	VDI1A(1)	4,5	VDI1A(2)	4,5	VDI1A(3)	4,5
VDI1A(4)	4,5	VDI1A(5)	4,5	VDI1A(6)	4,5	VDI1A(7)	4,5
VDI1A(8)	4,5	VDI1A(9)	4,5	VDI1ACLK	4,5	VDI1B(0)	4,5
VDI1B(1)	4,5	VDI1B(2)	4,5	VDI1B(3)	4,5	VDI1B(4)	4,5
VDI1B(5)	4,5	VDI1B(6)	4,5	VDI1B(7)	4,5	VDI1B(8)	4,5
VDI1B(9)	4,5	VDI1BCLK	4,5	VDI2A(0)	4,5	VDI2A(1)	4,5
VDI2A(2)	4,5	VDI2A(3)	4,5	VDI2A(4)	4,5	VDI2A(5)	4,5

VDI2A(6)	4,5	VDI2A(7)	4,5	VDI2A(8)	4,5	VDI2A(9)	4,5
VDI2ACLK	4,5	VDI2B(0)	4,5	VDI2B(1)	4,5	VDI2B(2)	4,5
VDI2B(3)	4,5	VDI2B(4)	4,5	VDI2B(5)	4,5	VDI2B(6)	4,5
VDI2B(7)	4,5	VDI2B(8)	4,5	VDI2B(9)	4,5	VDI2BCLK	4,5
VDIF1C(0)	3,4	VDIF1C(1)	3,4	VDIF1C(2)	3,4	VDIF1C(3)	3,4
VDIF1C(4)	3,4	VDIF1C(5)	3,4	VDIF1C(6)	3,4	VDIF1C(7)	3,4
VDIF1L(0)	3,4	VDIF1L(1)	3,4	VDIF1L(2)	3,4	VDIF1L(3)	3,4
VDIF1L(4)	3,4	VDIF1L(5)	3,4	VDIF1L(6)	3,4	VDIF1L(7)	3,4
VDIF2C(0)	2,4	VDIF2C(1)	2,4	VDIF2C(2)	2,4	VDIF2C(3)	2,4
VDIF2C(4)	2,4	VDIF2C(5)	2,4	VDIF2C(6)	2,4	VDIF2C(7)	2,4
VDIF2L(0)	2,4	VDIF2L(1)	2,4	VDIF2L(2)	2,4	VDIF2L(3)	2,4
VDIF2L(4)	2,4	VDIF2L(5)	2,4	VDIF2L(6)	2,4	VDIF2L(7)	2,4
VDOCF(0)	4,5	VDOCF(1)	4,5	VDOCF(2)	4,5	VDOCF(3)	4,5
VDOCF(4)	4,5	VDOCF(5)	4,5	VDOCF(6)	4,5	VDOCF(7)	4,5
VDOCF(8)	4,5	VDOCF(9)	4,5	VDOCFCLK	4,5	VDOPC(0)	1,4
VDOPC(1)	1,4	VDOPC(2)	1,4	VDOPC(3)	1,4	VDOPC(4)	1,4
VDOPC(5)	1,4	VDOPC(6)	1,4	VDOPC(7)	1,4	VDOPL(0)	1,4
VDOPL(1)	1,4	VDOPL(2)	1,4	VDOPL(3)	1,4	VDOPL(4)	1,4
VDOPL(5)	1,4	VDOPL(6)	1,4	VDOPL(7)	1,4		

Reference Designator to page:

1	1	2	2	3	3	4	4	5	5	J1	4	J2	4
J3	4	J4	4	J5	3	J6	3	J7	3	J8	2	J9	2
J10	2	J11	1	J12	1	J13	1	J25	5	J26	5	J27	5
J28	5	J29	5	J30	5	J31	5	J32	5	RN1	4	RN2	4

Grass Valley Group®

SCHEMATIC DIAGRAM
DPM INTERNAL MOTHER BOARD

SIZE D
DRAWING NO. 10-064716-01
A1
SCALE: NONE
SHEET 6 OF 6

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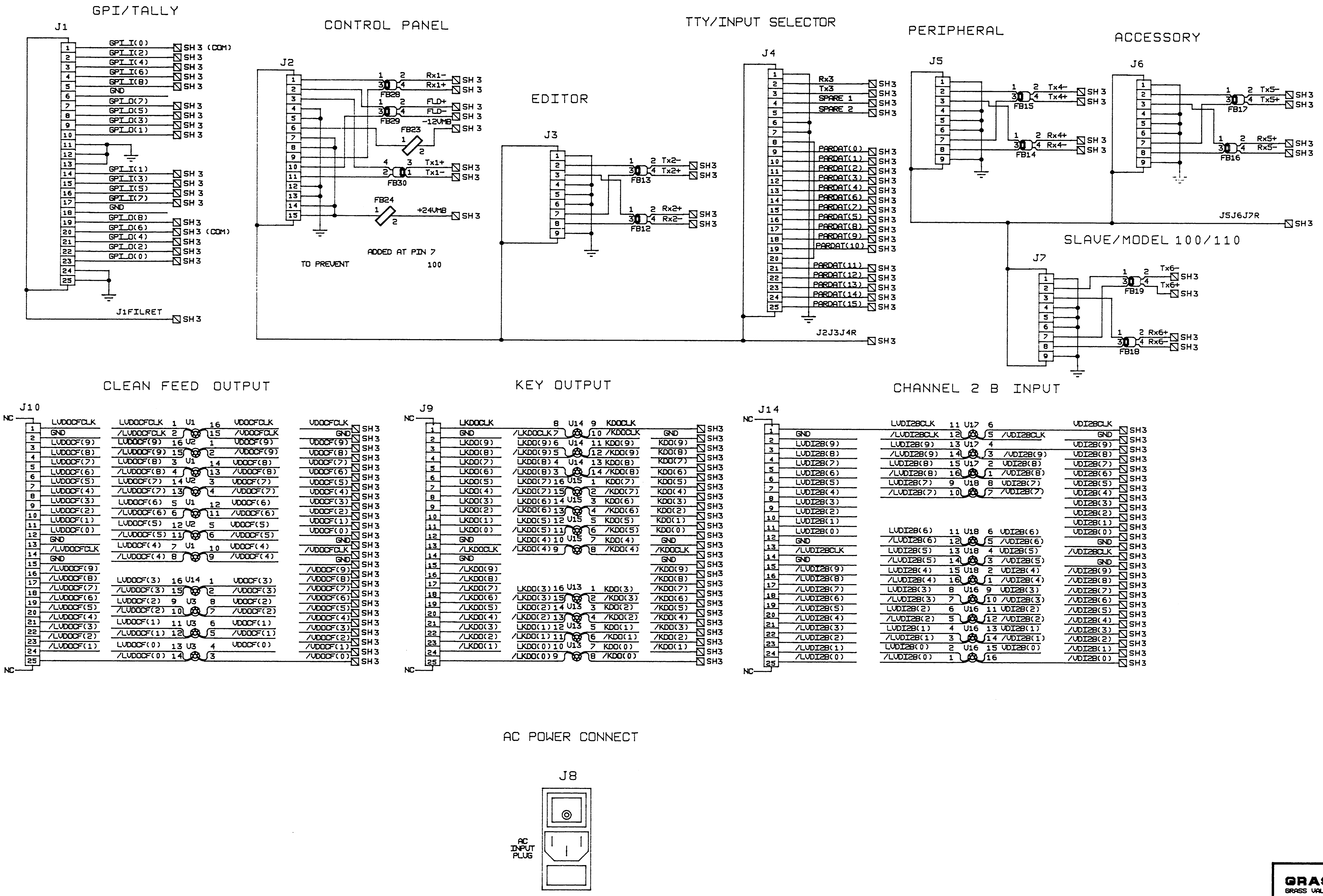
REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
A1	2396	PLUM	8JULY 1991	——	——		——
PILOT RUN RELEASE							
B1	2427	PLUM	8JULY 1991	PLUM			——

SH2:L20C-L20F WERE 284231-01/.12UH.



GPI/TALLY
J1
GPI_I(0)
GPI_I(2)
GPI_I(4)
GPI_I(6)
GPI_I(8)
GND
GPI_O(7)
GPI_O(5)
GPI_O(3)
GPI_O(1)
GPI_I(1)
GPI_I(3)
GPI_I(5)
GPI_I(7)
GND
GPI_O(8)
GPI_O(6)
GPI_O(4)
GPI_O(2)
GPI_O(0)
SH3 (COM)
SH3
J1FILRET
CONTROL PANEL
J2
Rx1-
Rx1+
FLD+
FLD-
-12VMB
Tx1+
Tx1-
+24VMB
FB28
FB29
FB23
FB30
FB24
ADDED AT PIN 7
TO PREVENT
100
EDITOR
J3
Tx2-
Tx2+
Rx2+
Rx2-
FB13
FB12
TTY/INPUT SELECTOR
J4
Rx3
Tx3
SPARE 1
SPARE 2
PARDAT(0)
PARDAT(1)
PARDAT(2)
PARDAT(3)
PARDAT(4)
PARDAT(6)
PARDAT(7)
PARDAT(5)
PARDAT(8)
PARDAT(9)
PARDAT(10)
PARDAT(11)
PARDAT(12)
PARDAT(13)
PARDAT(14)
PARDAT(15)
J2J3J4R
PERIPHERAL
J5
Tx4-
Tx4+
Rx4+
Rx4-
FB15
FB14
ACCESSORY
J6
Tx5-
Tx5+
Rx5+
Rx5-
FB17
FB16
J5J6J7R
SLAVE/MODEL 100/110
J7
Tx6-
Tx6+
Rx6+
Rx6-
FB19
FB18
CLEAN FEED OUTPUT
J10
NC
LVDOCFCLK
VDOCFCLK
/LVDOCFCLK
/VDOCFCLK
U1
U2
U3
U14
KEY OUTPUT
J9
LKDOCLK
KDOCLK
/LKDOCLK
/KDOCLK
U13
U14
U15
CHANNEL 2 B INPUT
J14
LVDI2BCLK
VDI2BCLK
/LVDI2BCLK
/VDI2BCLK
U16
U17
U18
AC POWER CONNECT
J8
AC INPUT PLUG

	CADNETIX
DPM700	
USED ON	NEXT ASSY
APPLICATION	
DISTRIBUTION	

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GRASS VALLEY CALIFORNIA
A TEKTRONIX COMPANY

DRAWN STEVEK/PLUM	DATE 7/9/91
ENGINEER STEVEK	7/9/91
CHECKED	DATE
APPROVED	DATE
PILOT RUN RLSE SKK	DATE 7-15-91
ENGRG RLSE	DATE

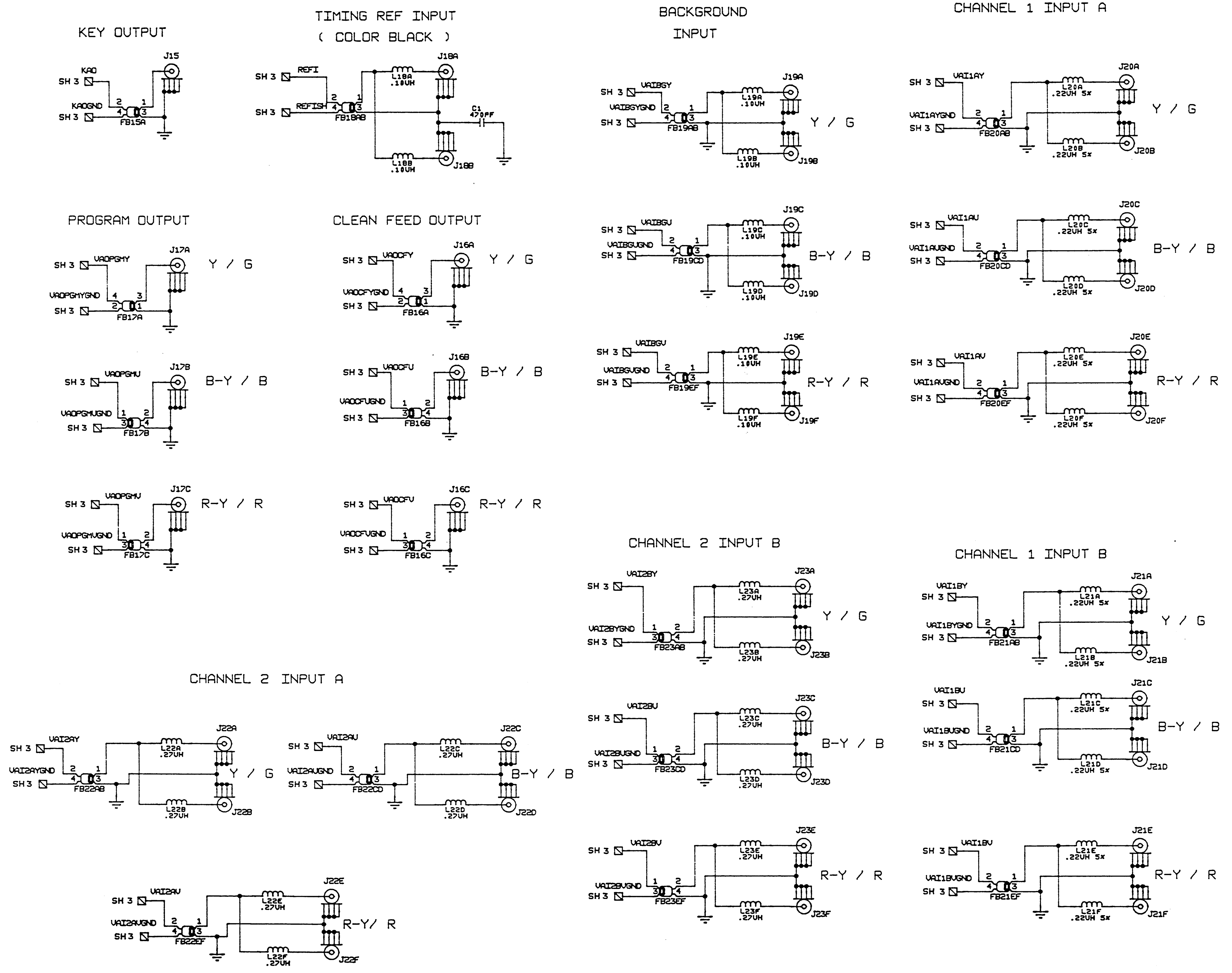
SCHEMATIC DIAGRAM

DPM700 EXTERIOR MOTHERBOARD

SIZE	DRAWING NO.	REV
D	10-064717-01	B1

SCALE: NONE
SHEET 1 OF 5

SEE SHEET 1 FOR REVISIONS



KEY OUTPUT
SH 3 KAO
SH 3 KAOGND
FB15A
J15
TIMING REF INPUT
(COLOR BLACK)
SH 3 REFI
SH 3 REFISH
FB18AB
L18A .10UH
L18B .10UH
J18A
J18B
C1 470PF
BACKGROUND INPUT
SH 3 VAIBGY
VAIBGYGND
FB19AB
L19A .10UH
L19B .10UH
J19A
J19B
Y / G
SH 3 VAIBGU
VAIBGUGND
FB19CD
L19C .10UH
L19D .10UH
J19C
J19D
B-Y / B
SH 3 VAIBGV
VAIBGVGND
FB19EF
L19E .10UH
L19F .10UH
J19E
J19F
R-Y / R
CHANNEL 1 INPUT A
SH 3 VAI1AY
VAI1AYGND
FB20AB
L20A .22UH 5%
L20B .22UH 5%
J20A
J20B
Y / G
SH 3 VAI1AU
VAI1AUGND
FB20CD
L20C .22UH 5%
L20D .22UH 5%
J20C
J20D
B-Y / B
SH 3 VAI1AV
VAI1AVGND
FB20EF
L20E .22UH 5%
L20F .22UH 5%
J20E
J20F
R-Y / R
PROGRAM OUTPUT
SH 3 VAOPGMY
VAOPGMYGND
FB17A
J17A
Y / G
SH 3 VAOPGMU
VAOPGMUGND
FB17B
J17B
B-Y / B
SH 3 VAOPGMV
VAOPGMVGND
FB17C
J17C
R-Y / R
CLEAN FEED OUTPUT
SH 3 VAOCFY
VAOCFYGND
FB16A
J16A
Y / G
SH 3 VAOCFU
VAOCFUGND
FB16B
J16B
B-Y / B
SH 3 VAOCFV
VAOCFVGND
FB16C
J16C
R-Y / R
CHANNEL 2 INPUT B
SH 3 VAI2BY
VAI2BYGND
FB23AB
L23A .27UH
L23B .27UH
J23A
J23B
Y / G
SH 3 VAI2BU
VAI2BUGND
FB23CD
L23C .27UH
L23D .27UH
J23C
J23D
B-Y / B
SH 3 VAI2BV
VAI2BVGND
FB23EF
L23E .27UH
L23F .27UH
J23E
J23F
R-Y / R
CHANNEL 1 INPUT B
SH 3 VAI1BY
VAI1BYGND
FB21AB
L21A .22UH 5%
L21B .22UH 5%
J21A
J21B
Y / G
SH 3 VAI1BU
VAI1BUGND
FB21CD
L21C .22UH 5%
L21D .22UH 5%
J21C
J21D
B-Y / B
SH 3 VAI1BV
VAI1BVGND
FB21EF
L21E .22UH 5%
L21F .22UH 5%
J21E
J21F
R-Y / R
CHANNEL 2 INPUT A
SH 3 VAI2AY
VAI2AYGND
FB22AB
L22A .27UH
L22B .27UH
J22A
J22B
Y / G
SH 3 VAI2AU
VAI2AUGND
FB22CD
L22C .27UH
L22D .27UH
J22C
J22D
B-Y / B
SH 3 VAI2AV
VAI2AVGND
FB22EF
L22E .27UH
L22F .27UH
J22E
J22F
R-Y/ R

GRASS VALLEY GROUP

SCHEMATIC DIAGRAM

DPM700 EXTERIOR MOTHERBOARD

SIZE	DRAWING NO.	REV
D	10-064717-01	B1
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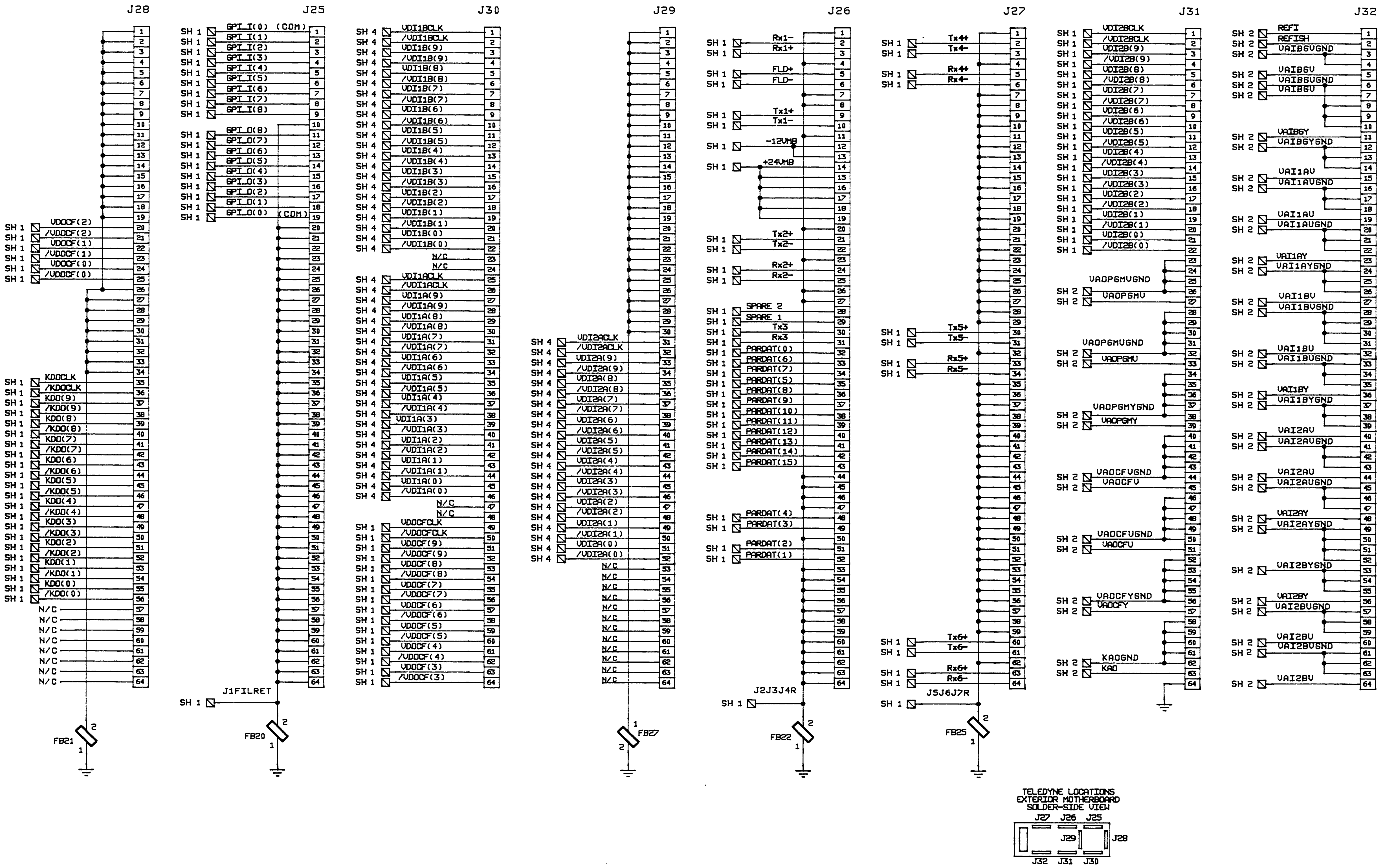
SEE SHEET 1 FOR REVISIONS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KDO(8)
/KDO(8)
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/KDO(7)
KDO(6)
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KDO(3)
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KDO(2)
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KDO(1)
/KDO(1)
KDO(0)
/KDO(0)
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FB21
J25
GPI_I(0) (COM)
GPI_I(1)
GPI_I(2)
GPI_I(3)
GPI_I(4)
GPI_I(5)
GPI_I(6)
GPI_I(7)
GPI_I(8)
GPI_O(8)
GPI_O(7)
GPI_O(6)
GPI_O(5)
GPI_O(4)
GPI_O(3)
GPI_O(2)
GPI_O(1)
GPI_O(0)
(COM)
J1FILRET
FB20
J30
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VDI1B(7)
/VDI1B(7)
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/VDI1B(6)
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/VDI1B(5)
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/VDI1B(1)
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/VDI1B(0)
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VDI1ACLK
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VDI1A(8)
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VDOCFCLK
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/VDI2A(2)
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/VDI2A(1)
VDI2A(0)
/VDI2A(0)
FB27
J26
Rx1-
Rx1+
FLD+
FLD-
Tx1+
Tx1-
-12VMB
+24VMB
Tx2+
Tx2-
Rx2+
Rx2-
SPARE 2
SPARE 1
Tx3
Rx3
PARDAT(0)
PARDAT(6)
PARDAT(7)
PARDAT(8)
PARDAT(9)
PARDAT(10)
PARDAT(11)
PARDAT(12)
PARDAT(13)
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PARDAT(15)
PARDAT(4)
PARDAT(3)
PARDAT(2)
PARDAT(1)
J2J3J4R
FB22
J27
Tx4+
Tx4-
Rx4+
Rx4-
Tx5+
Tx5-
Rx5+
Rx5-
Tx6+
Tx6-
Rx6+
Rx6-
J5J6J7R
FB25
J31
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VDI2B(7)
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VDI2B(5)
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VDI2B(2)
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VDI2B(1)
/VDI2B(1)
VDI2B(0)
/VDI2B(0)
VAOPGMVGND
VAOPGMV
VAOPGMUGND
VAOPGMU
VAOPGMYGND
VAOPGMY
VAOCFVGND
VAOCFV
VAOCFUGND
VAOCFU
VAOCFYGND
VAOCFY
KAOGND
KAO
J32
REFI
REFISH
VAIBGVGND
VAIBGV
VAIBGUGND
VAIBGU
VAIBGY
VAIBGYGND
VAI1AV
VAI1AVGND
VAI1AU
VAI1AUGND
VAI1AY
VAI1AYGND
VAI1BV
VAI1BVGND
VAI1BU
VAI1BUGND
VAI1BY
VAI1BYGND
VAI2AV
VAI2AVGND
VAI2AU
VAI2AUGND
VAI2AY
VAI2AYGND
VAI2BYGND
VAI2BY
VAI2BUGND
VAI2BU
VAI2BVGND
VAI2BV
SH 1
SH 2
SH 4
TELEDYNE LOCATIONS
EXTERIOR MOTHERBOARD
SOLDER-SIDE VIEW
J27 J26 J25
J29
J28
J32 J31 J30

GRASS VALLEY GROUP

SCHEMATIC DIAGRAM

DPM700 EXTERIOR MOTHERBOARD

SIZE	DRAWING NO.	REV
D	10-064717-01	B1

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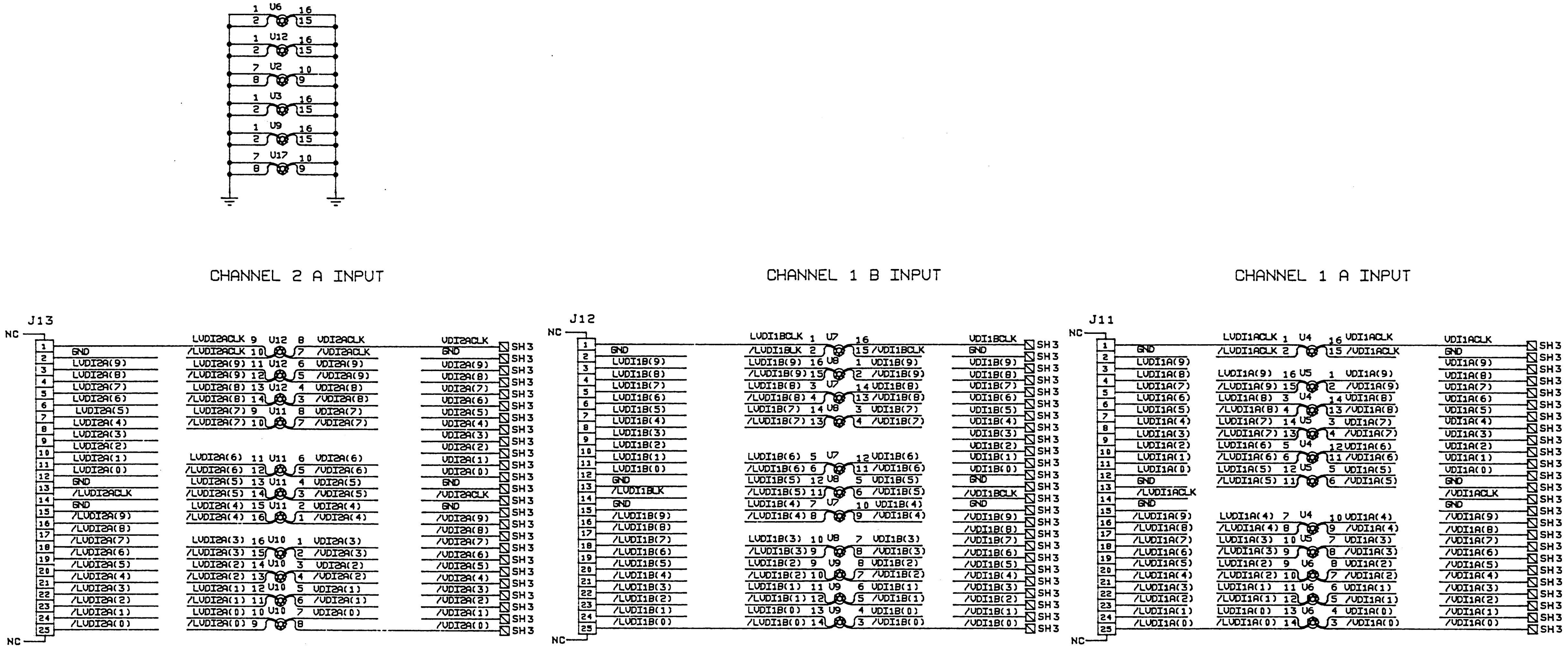
SEE SHEET 1 FOR REVISIONS


U6
U12
U2
U3
U9
U17
CHANNEL 2 A INPUT
CHANNEL 1 B INPUT
CHANNEL 1 A INPUT
J13
J12
J11
NC
GND
LVDI2ACLK
VDI2ACLK
/LVDI2ACLK
/VDI2ACLK
LVDI1BCLK
VDI1BCLK
/LVDI1BCLK
/VDI1BCLK
LVDI1ACLK
VDI1ACLK
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U4
U5
U7
U8
U10
U11
SH3

GRASS VALLEY GROUP

SCHEMATIC DIAGRAM

DPM700 EXTERIOR MOTHERBOARD

SIZE D DRAWING NO. 10-064717-01 REV B1

SCALE: NONE SHEET 4 OF 5

D 10-064717-00 B1 S

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REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
A1	Z056	PLUM		PLUM			——

SEE SHEET 1 FOR CHANGES

Net name to page:

+24VMB	1,3	-12VMB	1,3	/KDO(0)	1,3	/KDO(1)	1,3
/KDO(2)	1,3	/KDO(3)	1,3	/KDO(4)	1,3	/KDO(5)	1,3
/KDO(6)	1,3	/KDO(7)	1,3	/KDO(8)	1,3	/KDO(9)	1,3
/KDOCLK	1,3	/LKDO(0)	1	/LKDO(1)	1	/LKDO(2)	1
/LKDO(3)	1	/LKDO(4)	1	/LKDO(5)	1	/LKDO(6)	1
/LKDO(7)	1	/LKDO(8)	1	/LKDO(9)	1	/LKDOCLK	1
/LVDI1A(0)	4	/LVDI1A(1)	4	/LVDI1A(2)	4	/LVDI1A(3)	4
/LVDI1A(4)	4	/LVDI1A(5)	4	/LVDI1A(6)	4	/LVDI1A(7)	4
/LVDI1A(8)	4	/LVDI1A(9)	4	/LVDI1ACLK	4	/LVDI1B(0)	4
/LVDI1B(1)	4	/LVDI1B(2)	4	/LVDI1B(3)	4	/LVDI1B(4)	4
/LVDI1B(5)	4	/LVDI1B(6)	4	/LVDI1B(7)	4	/LVDI1B(8)	4
/LVDI1B(9)	4	/LVDI1BLK	4	/LVDI2A(0)	4	/LVDI2A(1)	4
/LVDI2A(2)	4	/LVDI2A(3)	4	/LVDI2A(4)	4	/LVDI2A(5)	4
/LVDI2A(6)	4	/LVDI2A(7)	4	/LVDI2A(8)	4	/LVDI2A(9)	4
/LVDI2ACLK	4	/LVDI2B(0)	1	/LVDI2B(1)	1	/LVDI2B(2)	1
/LVDI2B(3)	1	/LVDI2B(4)	1	/LVDI2B(5)	1	/LVDI2B(6)	1
/LVDI2B(7)	1	/LVDI2B(8)	1	/LVDI2B(9)	1	/LVDI2BCLK	1
/LVDOCF(0)	1	/LVDOCF(1)	1	/LVDOCF(2)	1	/LVDOCF(3)	1
/LVDOCF(4)	1	/LVDOCF(5)	1	/LVDOCF(6)	1	/LVDOCF(7)	1
/LVDOCF(8)	1	/LVDOCF(9)	1	/LVDOCFCLK	1	/VDI1A(0)	3,4
/VDI1A(1)	3,4	/VDI1A(2)	3,4	/VDI1A(3)	3,4	/VDI1A(4)	3,4
/VDI1A(5)	3,4	/VDI1A(6)	3,4	/VDI1A(7)	3,4	/VDI1A(8)	3,4
/VDI1A(9)	3,4	/VDI1ACLK	3,4	/VDI1B(0)	3,4	/VDI1B(1)	3,4
/VDI1B(2)	3,4	/VDI1B(3)	3,4	/VDI1B(4)	3,4	/VDI1B(5)	3,4
/VDI1B(6)	3,4	/VDI1B(7)	3,4	/VDI1B(8)	3,4	/VDI1B(9)	3,4
/VDI1BCLK	3,4	/VDI2A(0)	3,4	/VDI2A(1)	3,4	/VDI2A(2)	3,4
/VDI2A(3)	3,4	/VDI2A(4)	3,4	/VDI2A(5)	3,4	/VDI2A(6)	3,4
/VDI2A(7)	3,4	/VDI2A(8)	3,4	/VDI2A(9)	3,4	/VDI2ACLK	3,4
/VDI2B(0)	1,3	/VDI2B(1)	1,3	/VDI2B(2)	1,3	/VDI2B(3)	1,3
/VDI2B(4)	1,3	/VDI2B(5)	1,3	/VDI2B(6)	1,3	/VDI2B(7)	1,3
/VDI2B(8)	1,3	/VDI2B(9)	1,3	/VDI2BCLK	1,3	/VDOCF(0)	1,3
/VDOCF(1)	1,3	/VDOCF(2)	1,3	/VDOCF(3)	1,3	/VDOCF(4)	1,3
/VDOCF(5)	1,3	/VDOCF(6)	1,3	/VDOCF(7)	1,3	/VDOCF(8)	1,3
/VDOCF(9)	1,3	/VDOCFCLK	1,3	FLD+	1,3	FLD-	1,3
GND	1,2,3,4	GPI_I(0)	1,3	GPI_I(1)	1,3	GPI_I(2)	1,3
GPI_I(3)	1,3	GPI_I(4)	1,3	GPI_I(5)	1,3	GPI_I(6)	1,3
GPI_I(7)	1,3	GPI_I(8)	1,3	GPI_O(0)	1,3	GPI_O(1)	1,3
GPI_O(2)	1,3	GPI_O(3)	1,3	GPI_O(4)	1,3	GPI_O(5)	1,3
GPI_O(6)	1,3	GPI_O(7)	1,3	GPI_O(8)	1,3	J1FILRET	1,3
J2J3J4R	1,3	J5J6J7R	1,3	KAD	2,3	KADGND	2,3
KDO(0)	1,3	KDO(1)	1,3	KDO(2)	1,3	KDO(3)	1,3
KDO(4)	1,3	KDO(5)	1,3	KDO(6)	1,3	KDO(7)	1,3
KDO(8)	1,3	KDO(9)	1,3	KDOCLK	1,3	LKDO(0)	1
LKDO(1)	1	LKDO(2)	1	LKDO(3)	1	LKDO(4)	1
LKDO(5)	1	LKDO(6)	1	LKDO(7)	1	LKDO(8)	1
LKDO(9)	1	LKDOCLK	1	LVDI1A(0)	4	LVDI1A(1)	4
LVDI1A(2)	4	LVDI1A(3)	4	LVDI1A(4)	4	LVDI1A(5)	4
LVDI1A(6)	4	LVDI1A(7)	4	LVDI1A(8)	4	LVDI1A(9)	4
LVDI1ACLK	4	LVDI1B(0)	4	LVDI1B(1)	4	LVDI1B(2)	4
LVDI1B(3)	4	LVDI1B(4)	4	LVDI1B(5)	4	LVDI1B(6)	4
LVDI1B(7)	4	LVDI1B(8)	4	LVDI1B(9)	4	LVDI1BCLK	4
LVDI2A(0)	4	LVDI2A(1)	4	LVDI2A(2)	4	LVDI2A(3)	4
LVDI2A(4)	4	LVDI2A(5)	4	LVDI2A(6)	4	LVDI2A(7)	4
LVDI2A(8)	4	LVDI2A(9)	4	LVDI2ACLK	4	LVDI2B(0)	1
LVDI2B(1)	1	LVDI2B(2)	1	LVDI2B(3)	1	LVDI2B(4)	1
LVDI2B(5)	1	LVDI2B(6)	1	LVDI2B(7)	1	LVDI2B(8)	1
LVDI2B(9)	1	LVDI2BCLK	1	LVDOCF(0)	1	LVDOCF(1)	1
LVDOCF(2)	1	LVDOCF(3)	1	LVDOCF(4)	1	LVDOCF(5)	1
LVDOCF(6)	1	LVDOCF(7)	1	LVDOCF(8)	1	LVDOCF(9)	1
LVDOCFCLK	1	PARDAT(0)	1,3	PARDAT(1)	1,3	PARDAT(10)	1,3
PARDAT(11)	1,3	PARDAT(12)	1,3	PARDAT(13)	1,3	PARDAT(14)	1,3
PARDAT(15)	1,3	PARDAT(2)	1,3	PARDAT(3)	1,3	PARDAT(4)	1,3
PARDAT(5)	1,3	PARDAT(6)	1,3	PARDAT(7)	1,3	PARDAT(8)	1,3
PARDAT(9)	1,3	REFI	2,3	REFISH	2,3	Rx1+	1,3
Rx1-	1,3	Rx2+	1,3	Rx2-	1,3	Rx3	1,3
Rx4+	1,3	Rx4-	1,3	Rx5+	1,3	Rx5-	1,3
Rx6+	1,3	Rx6-	1,3	SPARE 1	1,3	SPARE 2	1,3
Tx1+	1,3	Tx1-	1,3	Tx2+	1,3	Tx2-	1,3
Tx3	1,3	Tx4+	1,3	Tx4-	1,3	Tx5+	1,3
Tx5-	1,3	Tx6+	1,3	Tx6-	1,3	VAI1AU	2,3
VAI1AUGND	2,3	VAI1AV	2,3	VAI1AVGND	2,3	VAI1AY	2,3
VAI1AYGND	2,3	VAI1BU	2,3	VAI1BUGND	2,3	VAI1BV	2,3
VAI1BVGND	2,3	VAI1BY	2,3	VAI1BYGND	2,3	VAI2AU	2,3
VAI2AUGND	2,3	VAI2AV	2,3	VAI2AVGND	2,3	VAI2AY	2,3
VAI2AYGND	2,3	VAI2BU	2,3	VAI2BUGND	2,3	VAI2BV	2,3

VAI2BVGND	2,3	VAI2BY	2,3	VAI2BYGND	2,3	VAIBGU	2,3
VAIBGUGND	2,3	VAIBGV	2,3	VAIBGVGND	2,3	VAIBGY	2,3
VAIBGYGND	2,3	VAOCFU	2,3	VAOCFUGND	2,3	VAOCFV	2,3
VAOCFVGND	2,3	VAOCFY	2,3	VAOCFYGND	2,3	VAOPGMU	2,3
VAOPGMUGND	2,3	VAOPGMV	2,3	VAOPGMVGND	2,3	VAOPGMY	2,3
VAOPGMYGND	2,3	VDI1A(0)	3,4	VDI1A(1)	3,4	VDI1A(2)	3,4
VDI1A(3)	3,4	VDI1A(4)	3,4	VDI1A(5)	3,4	VDI1A(6)	3,4
VDI1A(7)	3,4	VDI1A(8)	3,4	VDI1A(9)	3,4	VDI1ACLK	3,4
VDI1B(0)	3,4	VDI1B(1)	3,4	VDI1B(2)	3,4	VDI1B(3)	3,4
VDI1B(4)	3,4	VDI1B(5)	3,4	VDI1B(6)	3,4	VDI1B(7)	3,4
VDI1B(8)	3,4	VDI1B(9)	3,4	VDI1BCLK	3,4	VDI2A(0)	3,4
VDI2A(1)	3,4	VDI2A(2)	3,4	VDI2A(3)	3,4	VDI2A(4)	3,4
VDI2A(5)	3,4	VDI2A(6)	3,4	VDI2A(7)	3,4	VDI2A(8)	3,4
VDI2A(9)	3,4	VDI2ACLK	3,4	VDI2B(0)	1,3	VDI2B(1)	1,3
VDI2B(2)	1,3	VDI2B(3)	1,3	VDI2B(4)	1,3	VDI2B(5)	1,3
VDI2B(6)	1,3	VDI2B(7)	1,3	VDI2B(8)	1,3	VDI2B(9)	1,3
VDI2BCLK	1,3	VDOCF(0)	1,3	VDOCF(1)	1,3	VDOCF(2)	1,3
VDOCF(3)	1,3	VDOCF(4)	1,3	VDOCF(5)	1,3	VDOCF(6)	1,3
VDOCF(7)	1,3	VDOCF(8)	1,3	VDOCF(9)	1,3	VDOCFCLK	1,3

Reference Designator to page:

1	1	2	2	3	3	4	4	C1	2	FB12	1	FB13	1
FB14	1	FB15	1	FB16	1	FB17	1	FB18	1	FB19	1	FB20	3
FB21	3	FB22	3	FB23	1	FB24	1	FB25	3	FB27	3	FB28	1
FB29	1	FB30	1	FB15A	2	FB16A	2	FB16B	2	FB16C	2	FB17A	2
FB17B	2	FB17C	2	FB18AB	2	FB19AB	2	FB19CD	2	FB19EF	2	FB20AB	2
FB20CD	2	FB20EF	2	FB21AB	2	FB21CD	2	FB21EF	2	FB22AB	2	FB22CD	2
FB22EF	2	FB23AB	2	FB23CD	2	FB23EF	2	J1	1	J2	1	J3	1
J4	1	J5	1	J6	1	J7	1	J9	1	J10	1	J11	4
J12	4	J13	4	J14	1	J15	2	J25	3	J26	3	J27	3
J28	3	J29	3	J30	3	J31	3	J32	3	J16A	2	J16B	2
J16C	2	J17A	2	J17B	2	J17C	2	J18A	2	J18B	2	J19A	2
J19B	2	J19C	2	J19D	2	J19E	2	J19F	2	J20A	2	J20B	2
J20C	2	J20D	2	J20E	2	J20F	2	J21A	2	J21B	2	J21C	2
J21D	2	J21E	2	J21F	2	J22A	2	J22B	2	J22C	2	J22D	2
J22E	2	J22F	2	J23A	2	J23B	2	J23C	2	J23D	2	J23E	2
J23F	2	L18A	2	L18B	2	L19A	2	L19B	2	L19C	2	L19D	2
L19E	2	L19F	2	L20A	2	L20B	2	L20C	2	L20D	2	L20E	2
L20F	2	L21A	2	L21B	2	L21C	2	L21D	2	L21E	2	L21F	2
L22A	2	L22B	2	L22C	2	L22D	2	L22E	2	L22F	2	L23A	2
L23B	2	L23C	2	L23D	2	L23E	2	L23F	2	U1	1	U2	1,4
U3	1,4	U4	4	U5	4	U6	4	U7	4	U8	4	U9	4
U10	4	U11	4	U12	4	U13	1	U14	1	U15	1	U16	1
U17	1,4	U18	1										

	CADNETIX
DPM100	064717
USED ON	NEXT ASSY
APPLICATION	
DISTRIBUTION	

GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA A TEKTRONIX COMPANY

DRAWN PLUM DATE 2NOV90
ENGINEER SKK
CHECKED DATE
APPROVED DATE
PILOT RUN RLSE DATE
PROD RLSE DATE

SCHEMATIC DIAGRAM
DMP100
EXTERIOR MOTHERBOARD
COMPONENT CROSS-REFERENCE

SIZE D DRAWING NO. 10-064717-01 B1
SCALE: NONE SHEET 5 OF 5

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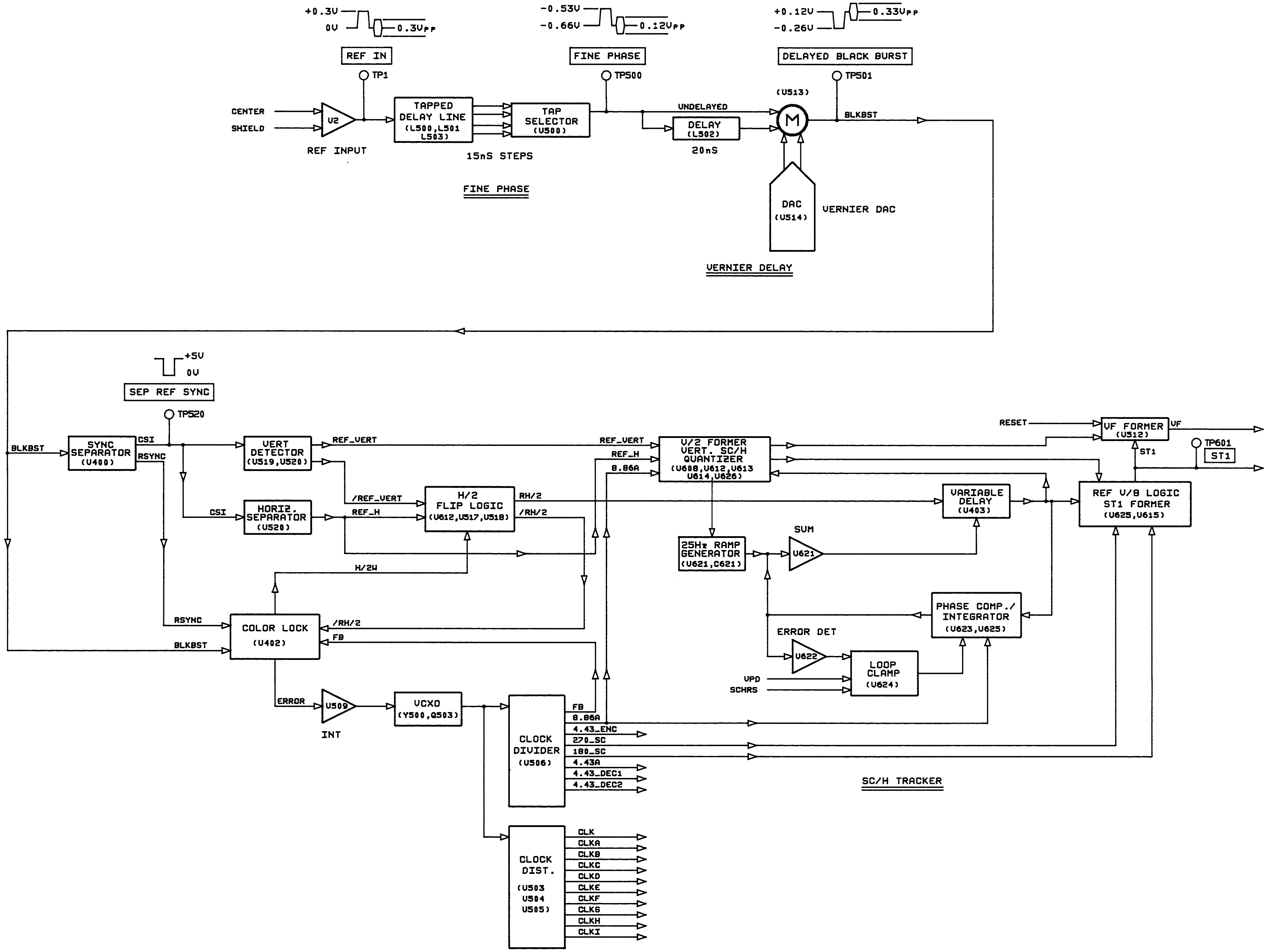
REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
A1	Z170	RSB	1/91	—	—		

PILOT RUN RELEASE


+0.3V
0V
0.3Vpp
REF IN
TP1
CENTER
SHIELD
U2
REF INPUT
TAPPED DELAY LINE (L500,L501 L503)
15nS STEPS
-0.53V
-0.66V
0.12Vpp
FINE PHASE
TP500
TAP SELECTOR (U500)
FINE PHASE
UNDELAYED
DELAY (L502)
20nS
+0.12V
-0.26V
0.33Vpp
DELAYED BLACK BURST
TP501
(U513)
M
BLKBST
DAC (U514)
VERNIER DAC
VERNIER DELAY
+5V
0V
SEP REF SYNC
TP520
BLKBST
SYNC SEPARATOR (U400)
CSI
RSYNC
VERT DETECTOR (U519,U520)
REF_VERT
CSI
HORIZ. SEPARATOR (U520)
/REF_VERT
REF_H
H/2 FLIP LOGIC (U612,U517,U518)
RH/2
/RH/2
H/2W
RSYNC
BLKBST
COLOR LOCK (U402)
/RH/2
FB
ERROR
U509
INT
VCXO (Y500,Q503)
CLOCK DIVIDER (U506)
FB
8.86A
4.43_ENC
270_SC
180_SC
4.43A
4.43_DEC1
4.43_DEC2
CLOCK DIST. (U503 U504 U505)
CLK
CLKA
CLKB
CLKC
CLKD
CLKE
CLKF
CLKG
CLKH
CLKI
REF_VERT
REF_H
8.86A
V/2 FORMER VERT. SC/H QUANTIZER (U608,U612,U613 U614,U626)
RESET
VF FORMER (U512)
VF
ST1
TP601
ST1
VARIABLE DELAY (U403)
REF V/8 LOGIC ST1 FORMER (U625,U615)
25Hz RAMP GENERATOR (U621,C621)
SUM
U621
PHASE COMP./ INTEGRATOR (U623,U625)
ERROR DET
U622
LOOP CLAMP (U624)
VPD
SCHRS
SC/H TRACKER

	CADNETIX
DPM-100	
USED ON	NEXT ASSY

APPLICATION

DISTRIBUTION

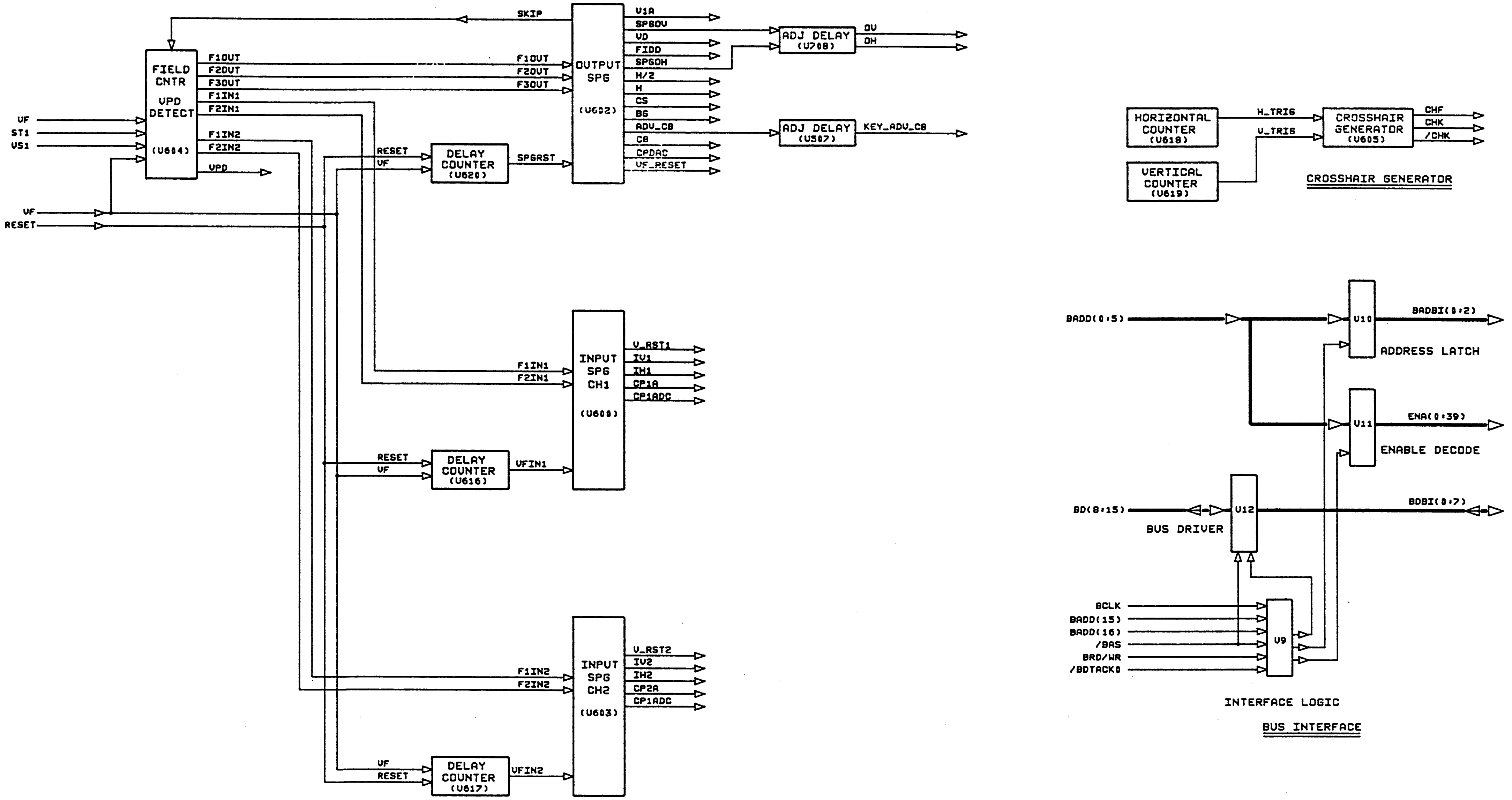
GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA
A TEKTRONIX COMPANY

DRAWN MMB/JJP DATE 11/11/90
ENGINEER MMB
CHECKED DATE
APPROVED MMB/JJP DATE 01/15/91
PILOT RUN RLSE DATE
ENGRG RLSE DATE

BLOCK DIAGRAM
PAL ANALOG INTERFACE
TIMING REFERENCE GENLOCK

SIZE D
DRAWING NO. 00-064722-00
REV A1
SCALE: NONE
SHEET 1 OF 5

SEE SHEET 1 FOR REVISIONS

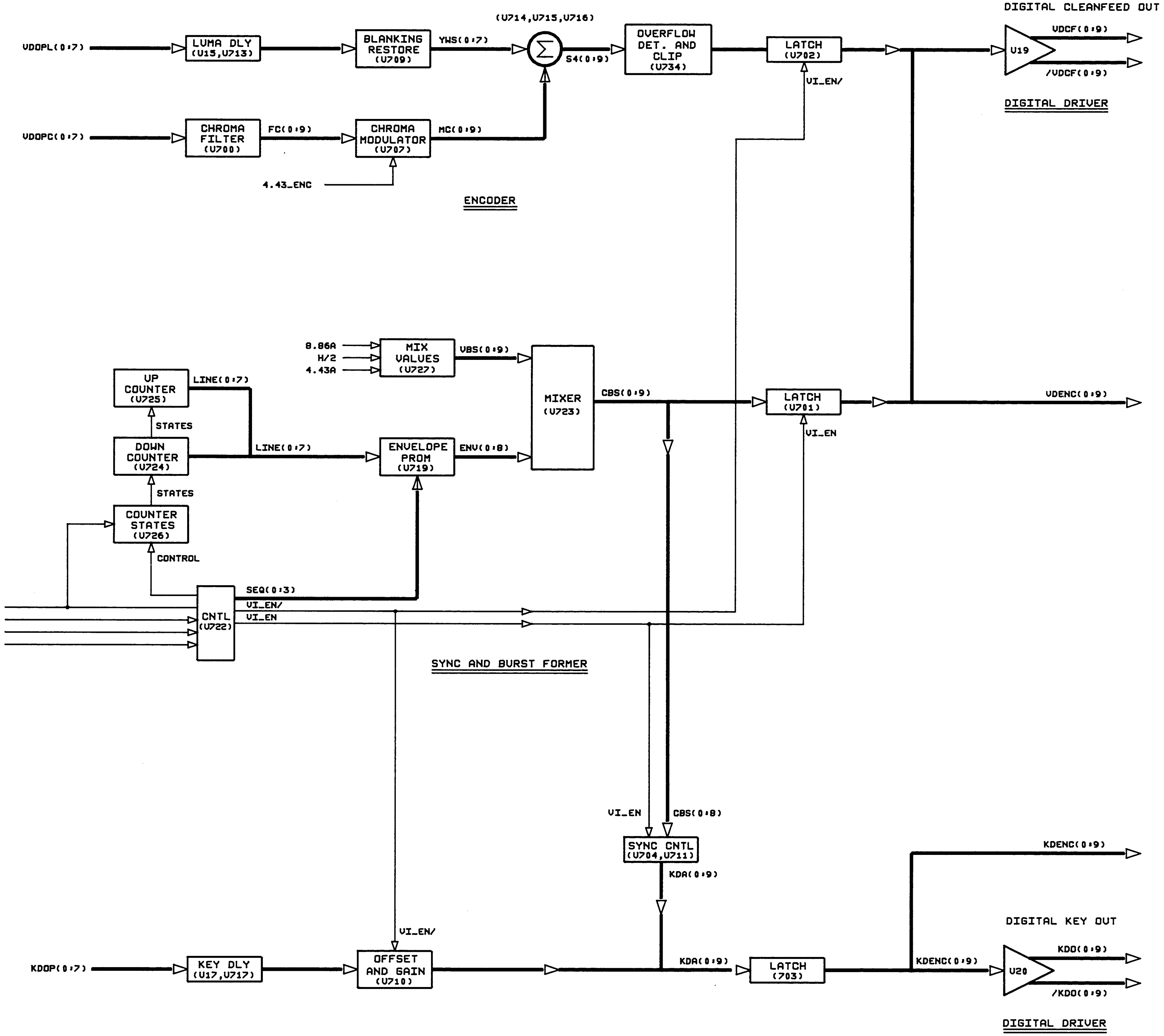

SKIP
FIELD CNTR
VPD DETECT
(U604)
VF
ST1
VS1
VF
RESET
F1OUT
F2OUT
F3OUT
F1IN1
F2IN1
F1IN2
F2IN2
VPD
RESET
VF
DELAY COUNTER
(U620)
SPGRST
F1OUT
F2OUT
F3OUT
OUTPUT SPG
(U602)
V1A
SPGOV
VD
FIDD
SPGOH
H/2
H
CS
BG
ADV_CB
CB
CPDAC
VF_RESET
ADJ DELAY
(U708)
OV
OH
ADJ DELAY
(U507)
KEY_ADV_CB
F1IN1
F2IN1
INPUT SPG CH1
(U600)
V_RST1
IV1
IH1
CP1A
CP1ADC
RESET
VF
DELAY COUNTER
(U616)
VFIN1
F1IN2
F2IN2
INPUT SPG CH2
(U603)
V_RST2
IV2
IH2
CP2A
CP1ADC
VF
RESET
DELAY COUNTER
(U617)
VFIN2
HORIZONTAL COUNTER
(U618)
H_TRIG
VERTICAL COUNTER
(U619)
V_TRIG
CROSSHAIR GENERATOR
(U605)
CHF
CHK
/CHK
CROSSHAIR GENERATOR
BADD(0:5)
U10
BADBI(0:2)
ADDRESS LATCH
U11
ENA(0:39)
ENABLE DECODE
BD(8:15)
U12
BDBI(0:7)
BUS DRIVER
BCLK
BADD(15)
BADD(16)
/BAS
BRD/WR
/BDTACK0
U9
INTERFACE LOGIC
BUS INTERFACE

GRASS VALLEY GROUP

BLOCK DIAGRAM
PAL ANALOG INTERFACE
SYNC GENERATORS, CROSSHAIR
GENERATOR AND BUS GENERATOR

SIZE D
DRAWING NO. 00-064722-00
REV A1
SCALE: NONE
SHEET 2 OF 5

SEE SHEET 1 FOR REVISIONS


VDOPL(0:7)
LUMA DLY (U15,U713)
BLANKING RESTORE (U709)
YWS(0:7)
(U714,U715,U716)
Σ
S4(0:9)
OVERFLOW DET. AND CLIP (U734)
LATCH (U702)
VI_EN/
DIGITAL CLEANFEED OUT
U19
VDCF(0:9)
/VDCF(0:9)
DIGITAL DRIVER
VDOPC(0:7)
CHROMA FILTER (U700)
FC(0:9)
CHROMA MODULATOR (U707)
MC(0:9)
4.43_ENC
ENCODER
8.86A
H/2
4.43A
MIX VALUES (U727)
VBS(0:9)
UP COUNTER (U725)
LINE(0:7)
STATES
DOWN COUNTER (U724)
LINE(0:7)
ENVELOPE PROM (U719)
ENV(0:8)
MIXER (U723)
CBS(0:9)
LATCH (U701)
VI_EN
VDENC(0:9)
STATES
COUNTER STATES (U726)
CONTROL
V1A
CS
CB
BG
CNTL (U722)
SEQ(0:3)
VI_EN/
VI_EN
SYNC AND BURST FORMER
VI_EN
CBS(0:8)
SYNC CNTL (U704,U711)
KDA(0:9)
KDENC(0:9)
DIGITAL KEY OUT
VI_EN/
KDOP(0:7)
KEY DLY (U17,U717)
OFFSET AND GAIN (U710)
KDA(0:9)
LATCH (703)
KDENC(0:9)
U20
KDO(0:9)
/KDO(0:9)
DIGITAL DRIVER

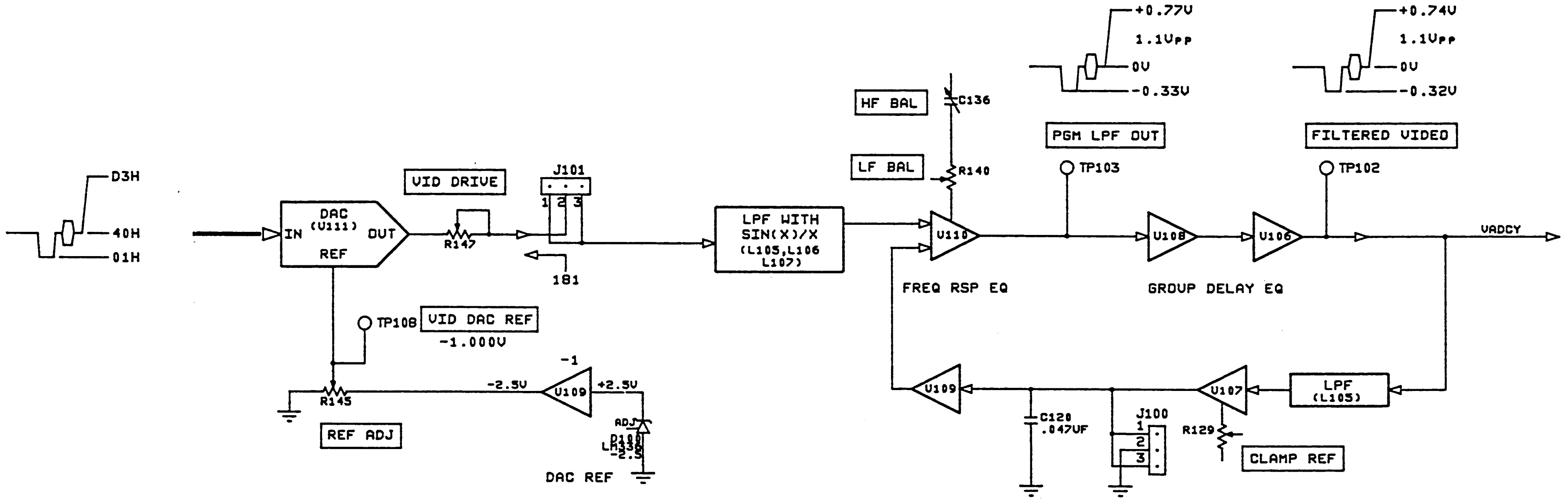
GRASS VALLEY GROUP

BLOCK DIAGRAM
PAL ANALOG INTERFACE
ENCODER AND SYNC PROCESSOR

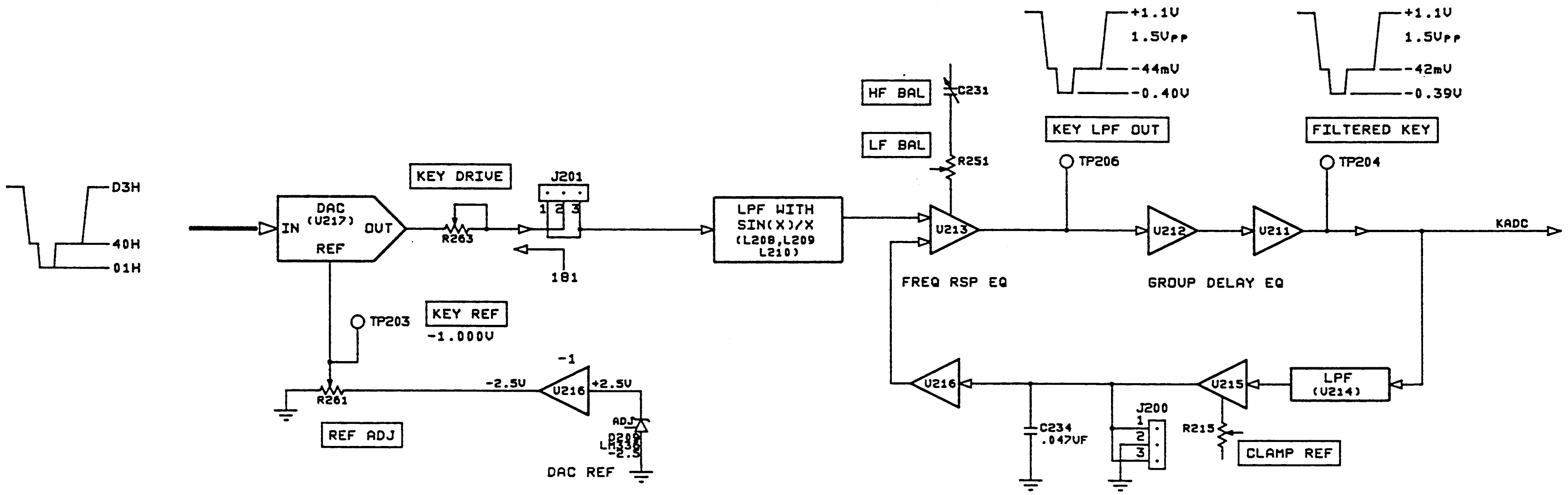
SIZE	DRAWING NO.	REV
D	00-064722-00	A1

SCALE: NONE
SHEET 3 OF 5

SEE SHEET 1 FOR REVISIONS


D3H
40H
01H
IN
DAC
(U111)
OUT
REF
VID DRIVE
R147
J101
1 2 3
181
TP108
VID DAC REF
-1.000V
R145
REF ADJ
-2.5V
-1
U109
+2.5V
ADJ
D100
LM336
-2.5
DAC REF
LPF WITH
SIN(X)/X
(L105,L106
L107)
HF BAL
C136
LF BAL
R140
U110
FREQ RSP EQ
+0.77V
1.1Vpp
0V
-0.33V
PGM LPF OUT
TP103
U108
U106
GROUP DELAY EQ
+0.74V
1.1Vpp
0V
-0.32V
FILTERED VIDEO
TP102
VADCY
U109
C120
.047UF
J100
1
2
3
R129
CLAMP REF
U107
LPF
(L105)

VIDEO RECONSTRUCTION


D3H
40H
01H
IN
DAC
(U217)
OUT
REF
KEY DRIVE
R263
J201
1 2 3
181
TP203
KEY REF
-1.000V
R261
REF ADJ
-2.5V
-1
U216
+2.5V
ADJ
D210
LM336
-2.5
DAC REF
LPF WITH
SIN(X)/X
(L208,L209
L210)
HF BAL
C231
LF BAL
R251
U213
FREQ RSP EQ
+1.1V
1.5Vpp
-44mV
-0.40V
KEY LPF OUT
TP206
U212
U211
GROUP DELAY EQ
+1.1V
1.5Vpp
-42mV
-0.39V
FILTERED KEY
TP204
KADC
U216
C234
.047UF
J200
1
2
3
R215
CLAMP REF
U215
LPF
(U214)

KEY RECONSTRUCTION

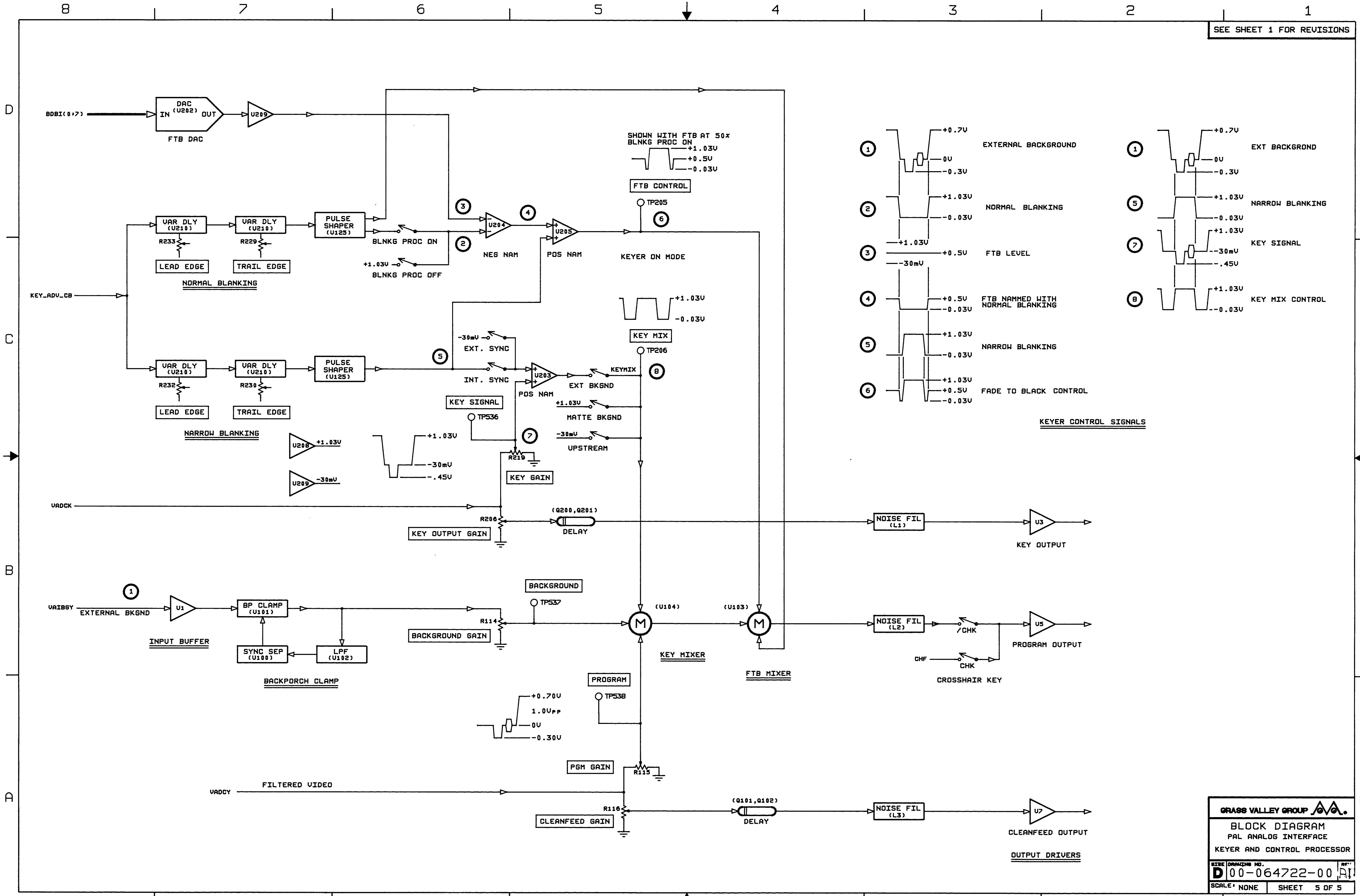
GRASS VALLEY GROUP

BLOCK DIAGRAM
PAL ANALOG INTERFACE
ENCODER AND DATA CONVERSION

SIZE	DRAWING NO.	REV
D	00-064722-00	A1

SCALE: NONE
SHEET 4 OF 5

SEE SHEET 1 FOR REVISIONS



8
7
6
5
4
3
2
1
D
C
B
A
BDBI(0:7)
DAC
(U202)
IN
OUT
FTB DAC
U209
SHOWN WITH FTB AT 50%
BLNKG PROC ON
+1.03V
+0.5V
-0.03V
FTB CONTROL
TP205
KEY_ADV_CB
VAR DLY (U210)
R233
LEAD EDGE
R229
TRAIL EDGE
NORMAL BLANKING
PULSE SHAPER (U125)
BLNKG PROC ON
+1.03V
BLNKG PROC OFF
3
2
U204
NEG NAM
4
U205
POS NAM
6
KEYER ON MODE
R232
R230
NARROW BLANKING
5
-30mV
EXT. SYNC
INT. SYNC
U203
POS NAM
EXT BKGND
KEYMIX
8
KEY MIX
TP206
+1.03V
-0.03V
KEY SIGNAL
TP536
7
R219
KEY GAIN
+1.03V
-30mV
-.45V
+1.03V
MATTE BKGND
-30mV
UPSTREAM
U208
+1.03V
U209
-30mV
VADCK
R206
KEY OUTPUT GAIN
(Q200,Q201)
DELAY
NOISE FIL (L1)
U3
KEY OUTPUT
VAIBGY
EXTERNAL BKGND
1
U1
INPUT BUFFER
BP CLAMP (U101)
SYNC SEP (U100)
LPF (U102)
BACKPORCH CLAMP
BACKGROUND
TP537
R114
BACKGROUND GAIN
M
(U104)
KEY MIXER
(U103)
M
FTB MIXER
NOISE FIL (L2)
/CHK
U5
PROGRAM OUTPUT
CHF
CHK
CROSSHAIR KEY
PROGRAM
TP538
+0.70V
1.0Vpp
0V
-0.30V
PGM GAIN
R115
VADCY
FILTERED VIDEO
R116
CLEANFEED GAIN
(Q101,Q102)
DELAY
NOISE FIL (L3)
U7
CLEANFEED OUTPUT
OUTPUT DRIVERS
1
+0.7V
0V
-0.3V
EXTERNAL BACKGROUND
2
+1.03V
-0.03V
NORMAL BLANKING
3
+1.03V
+0.5V
-30mV
FTB LEVEL
4
+0.5V
-0.03V
FTB NAMMED WITH NORMAL BLANKING
5
+1.03V
-0.03V
NARROW BLANKING
6
+1.03V
+0.5V
-0.03V
FADE TO BLACK CONTROL
1
+0.7V
0V
-0.3V
EXT BACKGROND
5
+1.03V
-0.03V
NARROW BLANKING
7
+1.03V
-30mV
-.45V
KEY SIGNAL
8
+1.03V
-0.03V
KEY MIX CONTROL
KEYER CONTROL SIGNALS

GRASS VALLEY GROUP

BLOCK DIAGRAM
PAL ANALOG INTERFACE
KEYER AND CONTROL PROCESSOR

SIZE D
DRAWING NO. 00-064722-00
REV A1
SCALE: NONE
SHEET 5 OF 5

SIZE B DWG NO. 07/08-064722-00 REV A1 SH 1

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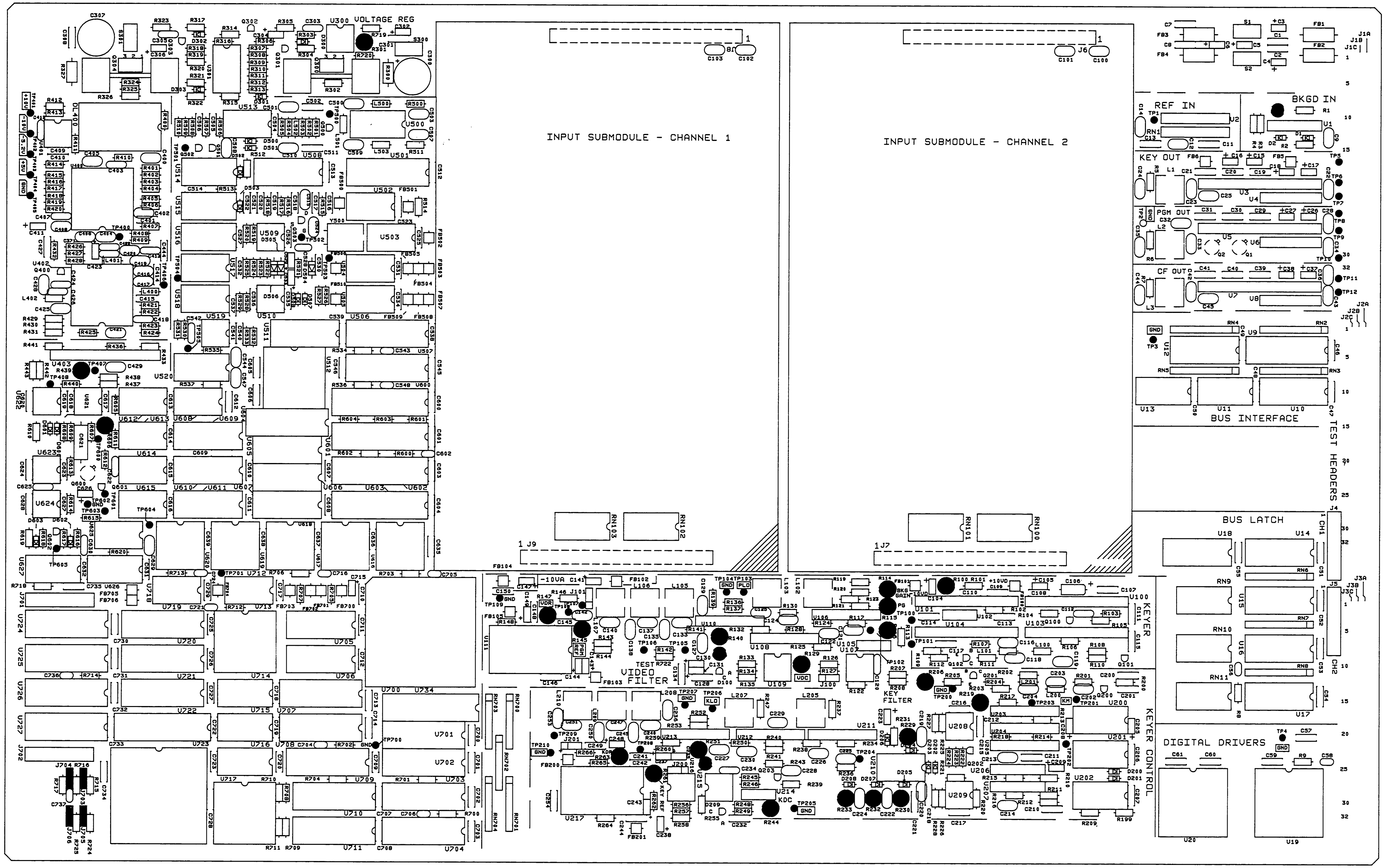
REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
A1	Z170	RSB	1-91	——	——		——

PILOT RUN RELEASE


VOLTAGE REG
INPUT SUBMODULE - CHANNEL 1
INPUT SUBMODULE - CHANNEL 2
REF IN
BKGD IN
KEY OUT
PGM OUT
CF OUT
BUS INTERFACE
TEST HEADERS
BUS LATCH
DIGITAL DRIVERS
KEYER
KEYER CONTROL
VIDEO FILTER
KEY FILTER
TEST
J9
J7
J6
J5
J4
J1A
J1B
J1C
J2A
J2B
J2C
J3A
J3B
J3C
CH1
CH2
RN100
RN101
RN102
RN103
U1
U2
U3
U4
U5
U6
U7
U8
U9
U10
U11
U12
U13
U14
U15
U16
U17
U18
U19
U20
U100
U200
U300
U500
U501
U502
U503
U506
U700
U701
U702
U703
U704
U734
FB1
FB2
S1
S2
GND

NOTES:
1. SCHEMATIC REFERENCE: D10-064722-00.
2. DARKENED COMPONENTS INDICATE TEST POINTS AND ADJUSTABLE COMPONENTS.
3. REFER TO SCHEMATIC FOR EDGE CONNECTOR PIN OUT INFORMATION.

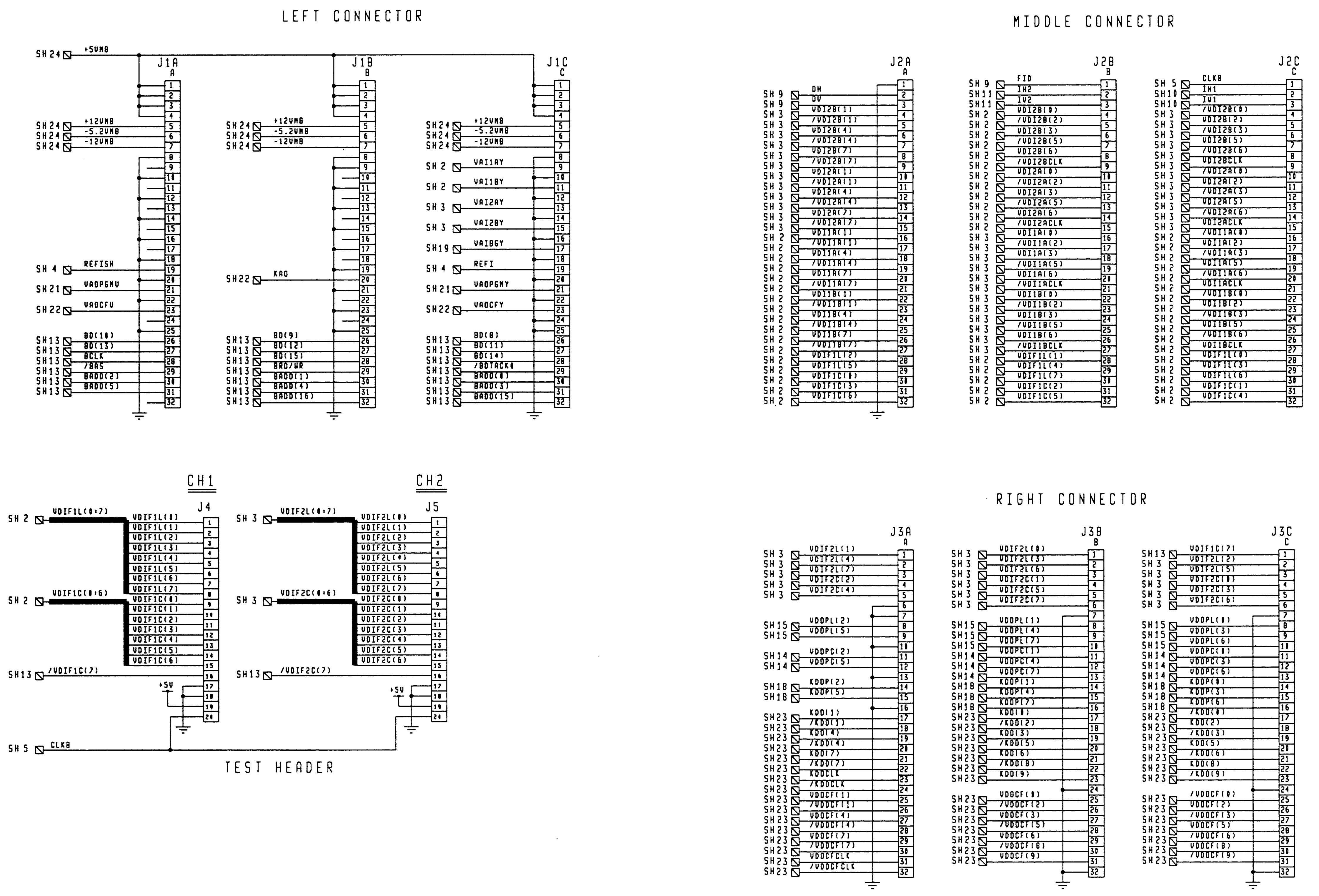
GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA *A TEKTRONIX COMPANY*

	CADNETIX
DPM-100	
USED ON	NEXT ASSY
APPLICATION	
DISTRIBUTION	

DRAWN JS/RB DATE 10/26/90
ENGINEER MB/JP
CHECKED DATE
APPROVED JS/RB DATE 01/15/91
PILOT RUN RLSE DATE
ENGRG RLSE DATE

COMPONENT/ADJUSTMENT LOCATION
PAL ANALOG INTERFACE

SIZE B
DRAWING NO. 07/08-064722-00 A1
SCALE: NONE
SHEET 1 OF 1


LEFT CONNECTOR
J1A
J1B
J1C
MIDDLE CONNECTOR
J2A
J2B
J2C
RIGHT CONNECTOR
J3A
J3B
J3C
CH1
CH2
J4
J5
TEST HEADER
+5VMB
+12VMB
-5.2VMB
-12VMB
REFISH
VAOPGMV
VAOCFV
KAO
VAI1AY
VAI1BY
VAI2AY
VAI2BY
VAIBGY
REFI
VAOPGMY
VAOCFY
BCLK
/BAS
BRD/WR
/BDTACK
VDIF1L(0:7)
VDIF1C(0:6)
VDIF2L(0:7)
VDIF2C(0:6)
/VDIF1C(7)
/VDIF2C(7)
+5V
CLKB
SH 5

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REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
A1	2170	RSB	1/91	—	—		—
PILOT RUN TELEASE WITH BOM CHANGES.							
A2	2170	RSB	1/91	—	MS		—
DELETE C127. CONNECT U716-15 TO U716-2. DELETE C227. TACKY 10PF CAP TO U1-2 AND GND CONNECT TACKY TERMINATION NETWORKS BETWEEN U9-1,2,3 AND GND (100 OHM RESISTOR AND 1000PF CAP).							
B1	2190	RSB	1/91	—	JJP		—
ADDED NOTES TO J6,J7,J8,J9 (PG 2 AND 3) C22,28,34 WERE 4PF. C12,43,100,101,102,103 WERE 4PF. R441 WAS 4.75K.							
C1	2224	RSB	3/91	—	JJP		—
ISSUE UPDATE.							
D1	2241	RSB	3/91	—	JJP		—
ISSUE UPDATE.							
E1	2241	RSB	3/91	—	JJP		—
R610 WAS 1K 1%. REMOVE C741							
F1	2261	JS	5/91	—	JJP		—
RELEASE 01X1 PCB. DELETE MODS. USE NEW BOARDS							

GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA
A TEKTRONIX COMPANY

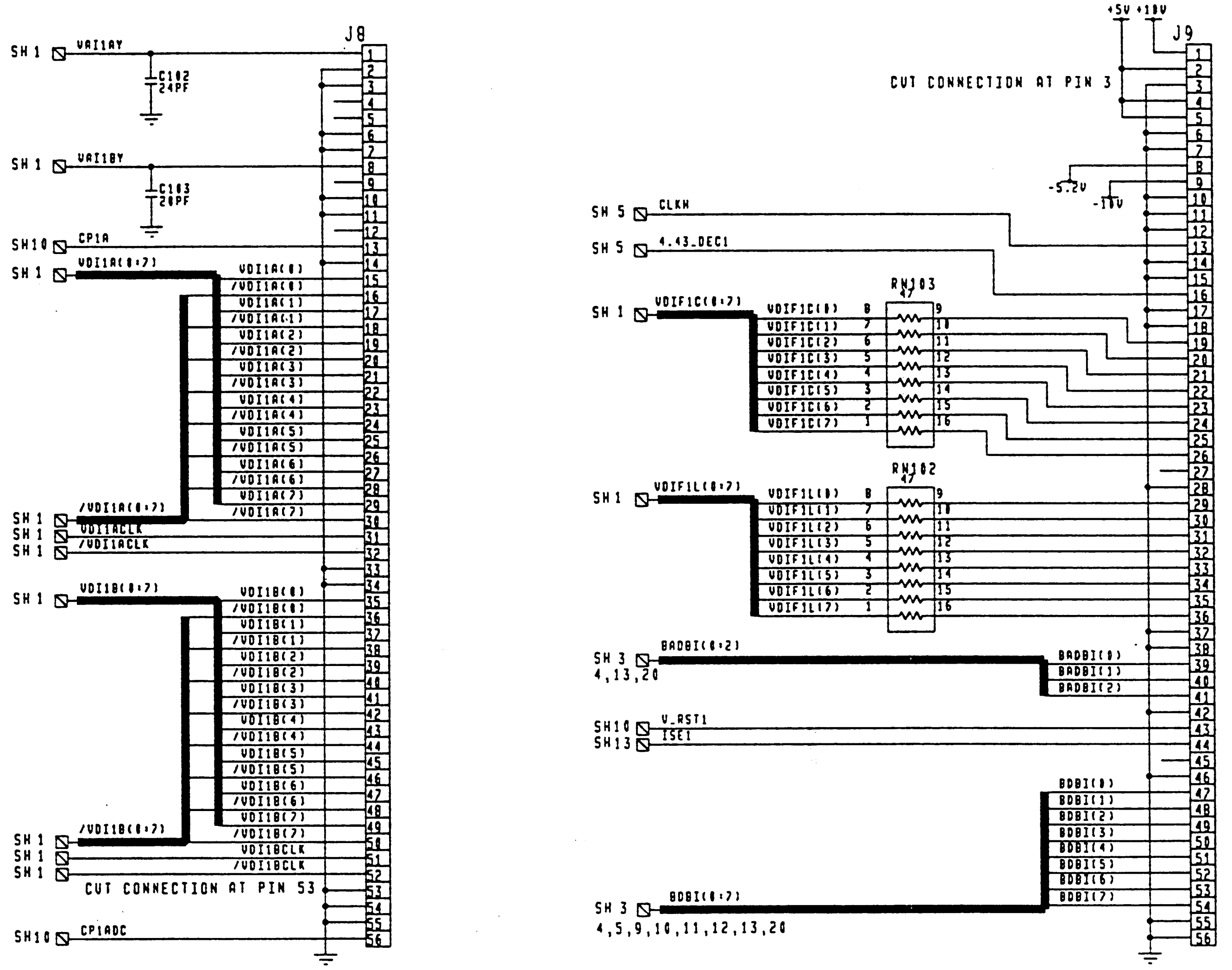
SCHEMATIC DIAGRAM
PAL ANALOG INTERFACE
MOTHERBOARD CONNECTIONS

PVD
CADNETIX
DPM-100
USED ON | NEXT ASSY
APPLICATION
DISTRIBUTION

DRAWN JP DATE 10/30/90
ENGINEER JP
CHECKED DATE
APPROVED JP DATE 01/01/91
PILOT RUN RLSE JP DATE 01/01/91
ENGRG RLSE DATE

SIZE D DRAWING NO. 10-064722-00 REV F1
SCALE: NONE SHEET 1 OF 26

SEE SHEET ONE FOR REVISIONS


J8
SH 1 VAI1AY
C102 24PF
SH 1 VAI1BY
C103 20PF
SH10 CP1A
SH 1 VDI1A(0:7)
VDI1A(0)
/VDI1A(0)
VDI1A(1)
/VDI1A(1)
VDI1A(2)
/VDI1A(2)
VDI1A(3)
/VDI1A(3)
VDI1A(4)
/VDI1A(4)
VDI1A(5)
/VDI1A(5)
VDI1A(6)
/VDI1A(6)
VDI1A(7)
/VDI1A(7)
SH 1 /VDI1A(0:7)
SH 1 VDI1ACLK
SH 1 /VDI1ACLK
SH 1 VDI1B(0:7)
VDI1B(0)
/VDI1B(0)
VDI1B(1)
/VDI1B(1)
VDI1B(2)
/VDI1B(2)
VDI1B(3)
/VDI1B(3)
VDI1B(4)
/VDI1B(4)
VDI1B(5)
/VDI1B(5)
VDI1B(6)
/VDI1B(6)
VDI1B(7)
/VDI1B(7)
SH 1 /VDI1B(0:7)
SH 1 VDI1BCLK
SH 1 /VDI1BCLK
SH 1
CUT CONNECTION AT PIN 53
SH10 CP1ADC
J9
+5V +10V
CUT CONNECTION AT PIN 3
-5.2V
-10V
SH 5 CLKH
SH 5 4.43_DEC1
RN103 47
SH 1 VDIF1C(0:7)
VDIF1C(0)
VDIF1C(1)
VDIF1C(2)
VDIF1C(3)
VDIF1C(4)
VDIF1C(5)
VDIF1C(6)
VDIF1C(7)
RN102 47
SH 1 VDIF1L(0:7)
VDIF1L(0)
VDIF1L(1)
VDIF1L(2)
VDIF1L(3)
VDIF1L(4)
VDIF1L(5)
VDIF1L(6)
VDIF1L(7)
SH 3 BADBI(0:2) 4,13,20
BADBI(0)
BADBI(1)
BADBI(2)
SH10 V_RST1
SH13 ISE1
BDBI(0)
BDBI(1)
BDBI(2)
BDBI(3)
BDBI(4)
BDBI(5)
BDBI(6)
BDBI(7)
SH 3 BDBI(0:7) 4,5,9,10,11,12,13,20

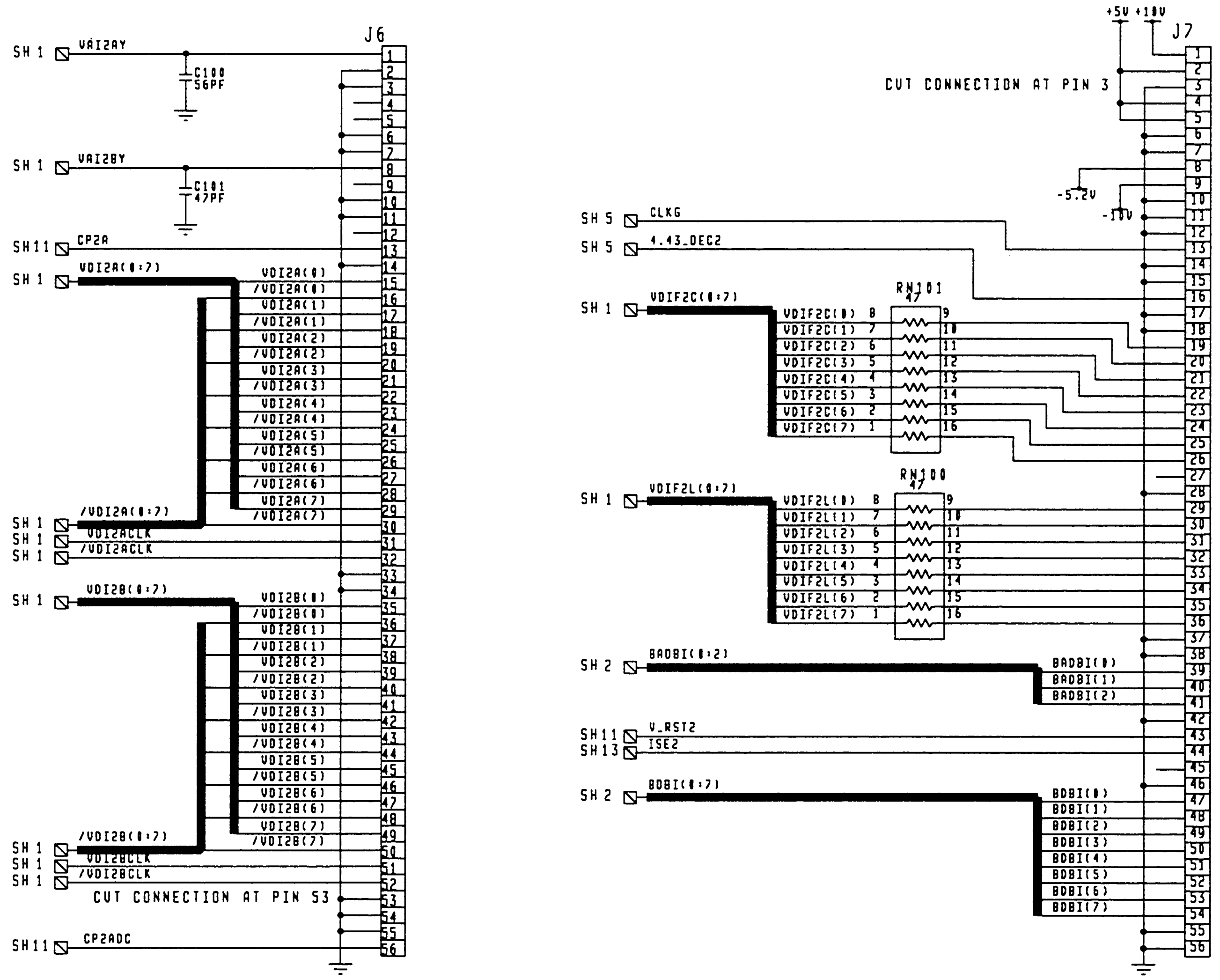
PIN 53 ON J8

PAL ANALOG INTERFACE
INPUT SUBMODULE
CONNECTIONS CH1

PVD

SIZE	DRAWING NO.	REV
D	10-064722-00	F1
SCALE: NONE	SHEET 2 OF 26	

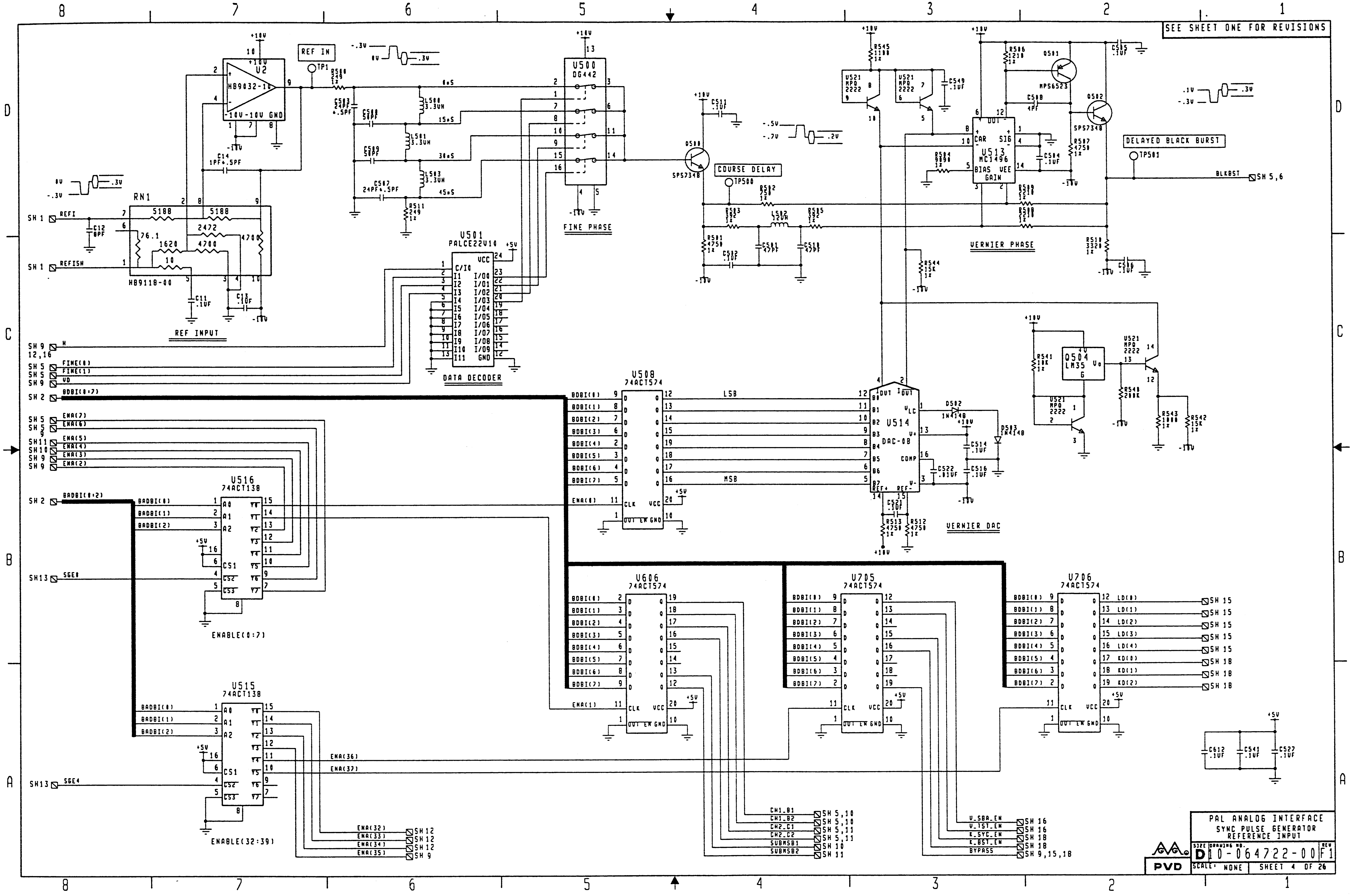
SEE SHEET ONE FOR REVISIONS


J6
SH 1 VAI2AY
C100 56PF
SH 1 VAI2BY
C101 47PF
SH11 CP2A
SH 1 VDI2A(0:7)
VDI2A(0) /VDI2A(0) VDI2A(1) /VDI2A(1) VDI2A(2) /VDI2A(2) VDI2A(3) /VDI2A(3) VDI2A(4) /VDI2A(4) VDI2A(5) /VDI2A(5) VDI2A(6) /VDI2A(6) VDI2A(7) /VDI2A(7)
SH 1 /VDI2A(0:7)
SH 1 VDI2ACLK
SH 1 /VDI2ACLK
SH 1 VDI2B(0:7)
VDI2B(0) /VDI2B(0) VDI2B(1) /VDI2B(1) VDI2B(2) /VDI2B(2) VDI2B(3) /VDI2B(3) VDI2B(4) /VDI2B(4) VDI2B(5) /VDI2B(5) VDI2B(6) /VDI2B(6) VDI2B(7) /VDI2B(7)
SH 1 /VDI2B(0:7)
SH 1 VDI2BCLK
SH 1 /VDI2BCLK
CUT CONNECTION AT PIN 53
SH11 CP2ADC
+5V +10V
J7
CUT CONNECTION AT PIN 3
-5.2V
-10V
SH 5 CLKG
SH 5 4.43_DEC2
SH 1 VDIF2C(0:7)
RN101 47
VDIF2C(0) VDIF2C(1) VDIF2C(2) VDIF2C(3) VDIF2C(4) VDIF2C(5) VDIF2C(6) VDIF2C(7)
SH 1 VDIF2L(0:7)
RN100 47
VDIF2L(0) VDIF2L(1) VDIF2L(2) VDIF2L(3) VDIF2L(4) VDIF2L(5) VDIF2L(6) VDIF2L(7)
SH 2 BADBI(0:2)
BADBI(0) BADBI(1) BADBI(2)
SH11 V_RST2
SH13 ISE2
SH 2 BDBI(0:7)
BDBI(0) BDBI(1) BDBI(2) BDBI(3) BDBI(4) BDBI(5) BDBI(6) BDBI(7)

PVD

PAL ANALOG INTERFACE
UNPUT SUBMODULE
CONNECTIONS CH2

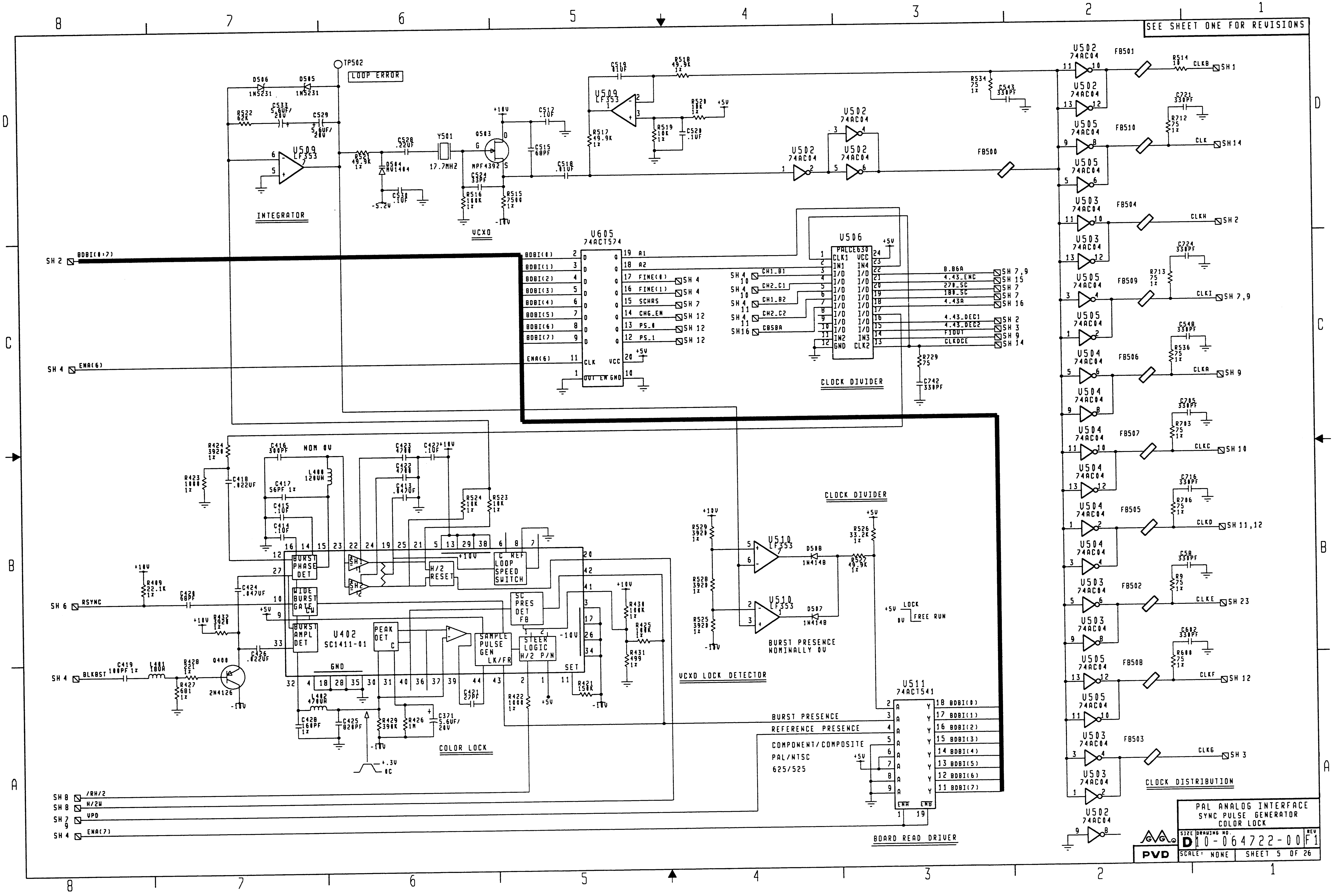
SIZE D
DRAWING NO. 10-064722-00
REV F1
SCALE: NONE
SHEET 3 OF 26


SEE SHEET ONE FOR REVISIONS
REF IN
TP1
V2
HB9032-10
RN1
HB9118-00
REF INPUT
SH 1 REFI
SH 1 REFISH
C12 8PF
C14 1PF+.5PF
C11 .1UF
C13 .1UF
5188
5188
2472
76.1
1620
4700
4700
10
R500 249 1%
C503 24PF +.5PF
C508 50PF
C509 50PF
C507 24PF+.5PF
L500 3.3UH
L501 3.3UH
L503 3.3UH
R511 249 1%
0nS
15nS
30nS
45nS
U500
DG442
FINE PHASE
U501
PALCE22V10
DATA DECODER
C/I0
I1
I2
I3
I4
I5
I6
I7
I8
I9
I10
I11
I/O0
I/O1
I/O2
I/O3
I/O4
I/O5
I/O6
I/O7
I/O8
I/O9
VCC
GND
SH 9 12,16 H
SH 5 FINE(0)
SH 5 FINE(1)
SH 9 VD
SH 2 BDBI(0:7)
SH 5 ENA(7)
SH 5 ENA(6)
SH 11 ENA(5)
SH 10 ENA(4)
SH 9 ENA(3)
SH 9 ENA(2)
SH 2 BADBI(0:2)
SH13 SGE0
SH13 SGE4
Q500
SPS7348
C511 .1UF
COURSE DELAY
TP500
R512 750 1%
R513 392 1%
R515 392 1%
L502 12UH
R501 4750 1%
C512 .1UF
C501 47PF
C510 47PF
R544 15K 1%
R545 1100 1%
U521 MPQ 2222
C549 .1UF
R506 1210 1%
Q501
MPS6523
Q502
SPS7348
C505 .1UF
C508 4PF
U513
MC1496
CAR
SIG
BIAS
VEE
GAIN
OUT
R504 9090 1%
C504 .1UF
R507 4750 1%
R509 221 1%
R510 221 1%
R518 3320 1%
C506 .1UF
VERNIER PHASE
DELAYED BLACK BURST
TP501
BLKBST
SH 5,6
+10V
-10V
+5V
.1V
-.3V
.3V
0V
-.5V
-.7V
.2V
U508
74ACT574
LSB
MSB
ENA(0)
CLK
VCC
OUT EN GND
U514
DAC-08
IOUT
VLC
V+
V-
COMP
REF+
REF-
D502 1N4148
D503 1N4148
C514 .1UF
C516 .1UF
C522 .01UF
C521 .1UF
R513 4750 1%
R512 4750 1%
VERNIER DAC
Q504
LM35
R541 10K 1%
R540 200K
R543 1000 1%
R542 15K 1%
U516
74ACT138
BADBI(0)
BADBI(1)
BADBI(2)
A0
A1
A2
CS1
CS2
CS3
ENABLE(0:7)
U515
74ACT138
ENA(36)
ENA(37)
ENABLE(32:39)
ENA(32) SH 12
ENA(33) SH 12
ENA(34) SH 12
ENA(35) SH 9
U606
74ACT574
ENA(1)
CH1_B1 SH 5,10
CH1_B2 SH 5,10
CH2_C1 SH 5,11
CH2_C2 SH 5,11
SUBNSB1 SH 10
SUBNSB2 SH 11
U705
74ACT574
V_SBA_EN SH 16
V_1ST_EN SH 16
K_SYC_EN SH 18
K_BST_EN SH 18
BYPASS SH 9,15,18
U706
74ACT574
LD(0) SH 15
LD(1) SH 15
LD(2) SH 15
LD(3) SH 15
LD(4) SH 15
KD(0) SH 18
KD(1) SH 18
KD(2) SH 18
C612 .1UF
C541 .1UF
C527 .1UF
PVD

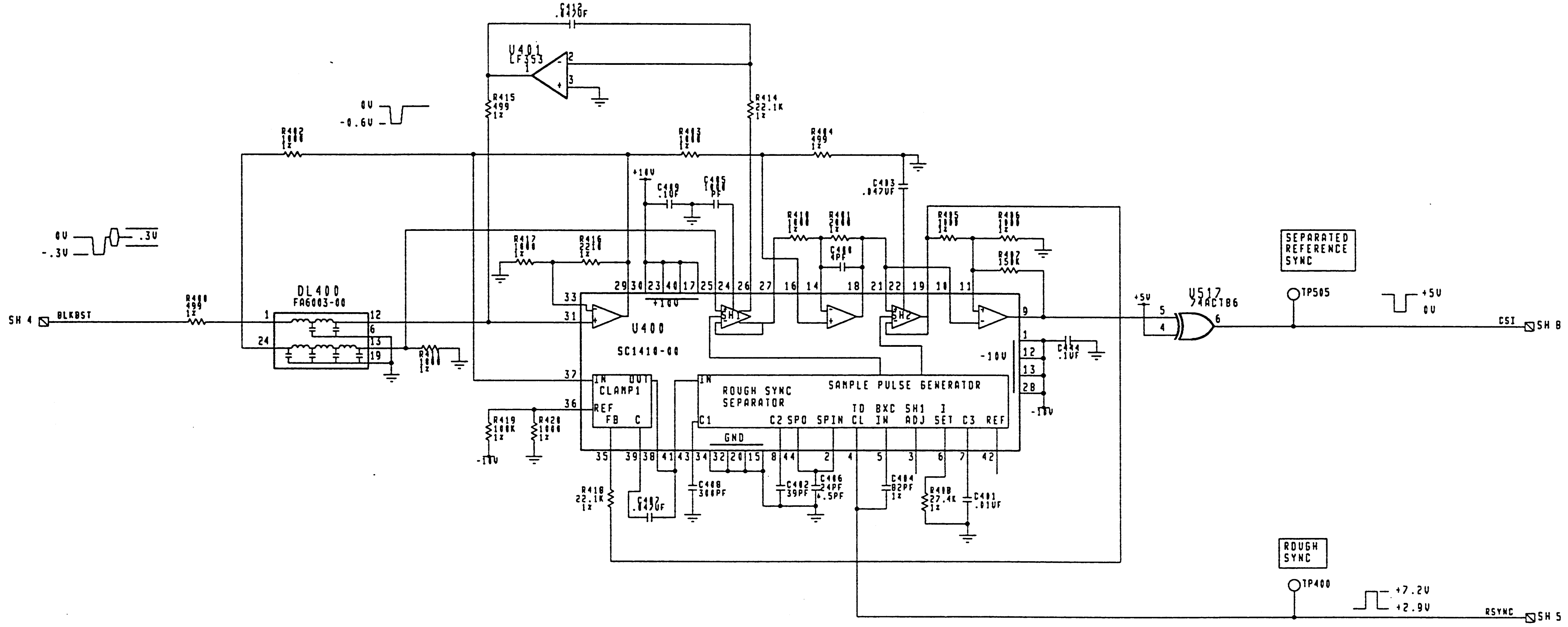
PAL ANALOG INTERFACE
SYNC PULSE GENERATOR
REFERENCE INPUT

SIZE D | DRAWING NO. 10-064722-00 | REV F1

SCALE: NONE | SHEET 4 OF 26


SEE SHEET ONE FOR REVISIONS
8
7
6
5
4
3
2
1
D
C
B
A
TP502
LOOP ERROR
D506 1N5231
D505 1N5231
R522 62K
C533 5.6UF/20V
C529 5.6UF/20V
U509 LF353
INTEGRATOR
R521 49.9K 1%
D504 MV1404
-5.2V
C530 .1UF
C528 .22UF
Y501 17.7MHZ
Q503 MPF4392
C524 33PF
R516 100K 1%
R515 7500 1%
-10V
+10V
C512 .1UF
C515 68PF
C518 .01UF
VCXO
C519 .01UF
R518 49.9K 1%
U509 LF353
R517 49.9K 1%
R519 10K 1%
R520 10K 1%
+5V
C520 .1UF
U502 74AC04
FB500
R534 75 1%
C543 330PF
U605 74ACT574
BDBI(0)
BDBI(1)
BDBI(2)
BDBI(3)
BDBI(4)
BDBI(5)
BDBI(6)
BDBI(7)
ENA(6)
CLK
VCC
OUT EN GND
A1
A2
FINE(0)
FINE(1)
SCHRS
CHG_EN
PS_0
PS_1
SH 2
BDBI(0:7)
SH 4
ENA(6)
SH 4
SH 7
SH 12
U506 PALCE630
CLK1
IN1
I/O
IN2
GND
VCC
IN4
IN3
CLK2
CH1_B1
CH2_C1
CH1_B2
CH2_C2
CBSBA
SH 16
8.86A
4.43_ENC
270_SC
180_SC
4.43A
4.43_DEC1
4.43_DEC2
F1OUT
CLKDCE
SH 7,9
SH 15
SH 7
SH 16
SH 2
SH 3
SH 9
SH 14
R729 75
C742 330PF
CLOCK DIVIDER
R424 3920 1%
R423 1000 1%
C418 .022UF
C416 300PF
NOM 0V
L400 120UH
C417 56PF 1%
C415 .1UF
C414 .1UF
C423 4700
C422 4700
C427 .1UF
C413 .0470F
R524 10K 1%
R523 10K 1%
BURST PHASE DET
WIDE BURST GATE
BURST AMPL DET
U402 SC1411-01
PEAK DET
SAMPLE PULSE GEN LK/FR
SC PRES DET FB
STEER LOGIC H/2 P/N
C REF LOOP SPEED SWITCH
H/2 RESET
SH1
SH2
GND
SET
R409 22.1K 1%
C420 68PF
SH 6 RSYNC
R432 3920 1%
C424 .047UF
C426 .022UF
SH 4 BLKBST
C419 100PF 1%
L401 100A
R428 221 1%
R427 681 1%
Q400 2N4126
L402 470UH
C420 68PF 1%
C425 820PF
R429 390K
R426 1M
C371 5.6UF/20V
C421 27PF
R422 1000 1%
R430 100K 1%
R425 100K 1%
R431 499 1%
R421 150K
+.3V
0C
COLOR LOCK
SH 8 /RH/2
SH 8 H/2W
SH 7,9 VPD
SH 4 ENA(7)
CLOCK DIVIDER
R529 3920 1%
R528 3920 1%
R525 3920 1%
U510 LF353
D508 1N4148
D507 1N4148
R526 33.2K 1%
R527 49.9K 1%
LOCK
FREE RUN
BURST PRESENCE NOMINALLY 0V
VCXO LOCK DETECTOR
U511 74ACT541
BURST PRESENCE
REFERENCE PRESENCE
COMPONENT/COMPOSITE
PAL/NTSC
625/525
ENA
ENB
BOARD READ DRIVER
U502 74AC04
U503 74AC04
U504 74AC04
U505 74AC04
FB501
FB510
FB504
FB509
FB506
FB507
FB505
FB502
FB508
FB503
R514 10
CLKB
SH 1
C721 330PF
R712 75 1%
CLK
SH 14
CLKH
SH 2
C724 330PF
R713 75 1%
CLKI
SH 7,9
C548 330PF
R536 75 1%
CLKA
SH 9
C705 330PF
R703 75 1%
CLKC
SH 10
C716 330PF
R706 75 1%
CLKD
SH 11,12
C58 330PF
R9 75 1%
CLKE
SH 23
C602 330PF
R600 75 1%
CLKF
SH 12
CLKG
SH 3
CLOCK DISTRIBUTION
PAL ANALOG INTERFACE
SYNC PULSE GENERATOR
COLOR LOCK
PVD
SIZE D
DRAWING NO. 10-064722-00
REV F1
SCALE: NONE
SHEET 5 OF 26

SEE SHEET ONE FOR REVISIONS



SH 4
BLKBST
R400 499 1%
DL400
FA6003-00
C412 .047UF
U401 LF353
R415 499 1%
R414 22.1K 1%
0V
-0.6V
0V
-.3V
.3V
R402
R403
R404 499 1%
C403 .047UF
+10V
C409 .1UF
C405
R417
R416
R410
R401
C400
R405
R406
R407 150K
U400
SC1410-00
+10V
-10V
CLAMP1
IN
OUT
REF
FB
C
ROUGH SYNC SEPARATOR
SAMPLE PULSE GENERATOR
C1
C2
SPO
SPIN
TD CL
BXC IN
SH1 ADJ
I SET
C3
REF
GND
SH1
SH2
C404 .1UF
R419 100K 1%
R420
R418 22.1K 1%
C407 .047UF
C408 360PF
C402 39PF
C406 24PF 4.5PF
C404 82PF 1%
R408 27.4K 1%
C401 .01UF
+5V
U517
74ACT86
SEPARATED REFERENCE SYNC
TP505
+5V
0V
CSI
SH 8
ROUGH SYNC
TP400
+7.2V
+2.9V
RSYNC
SH 5

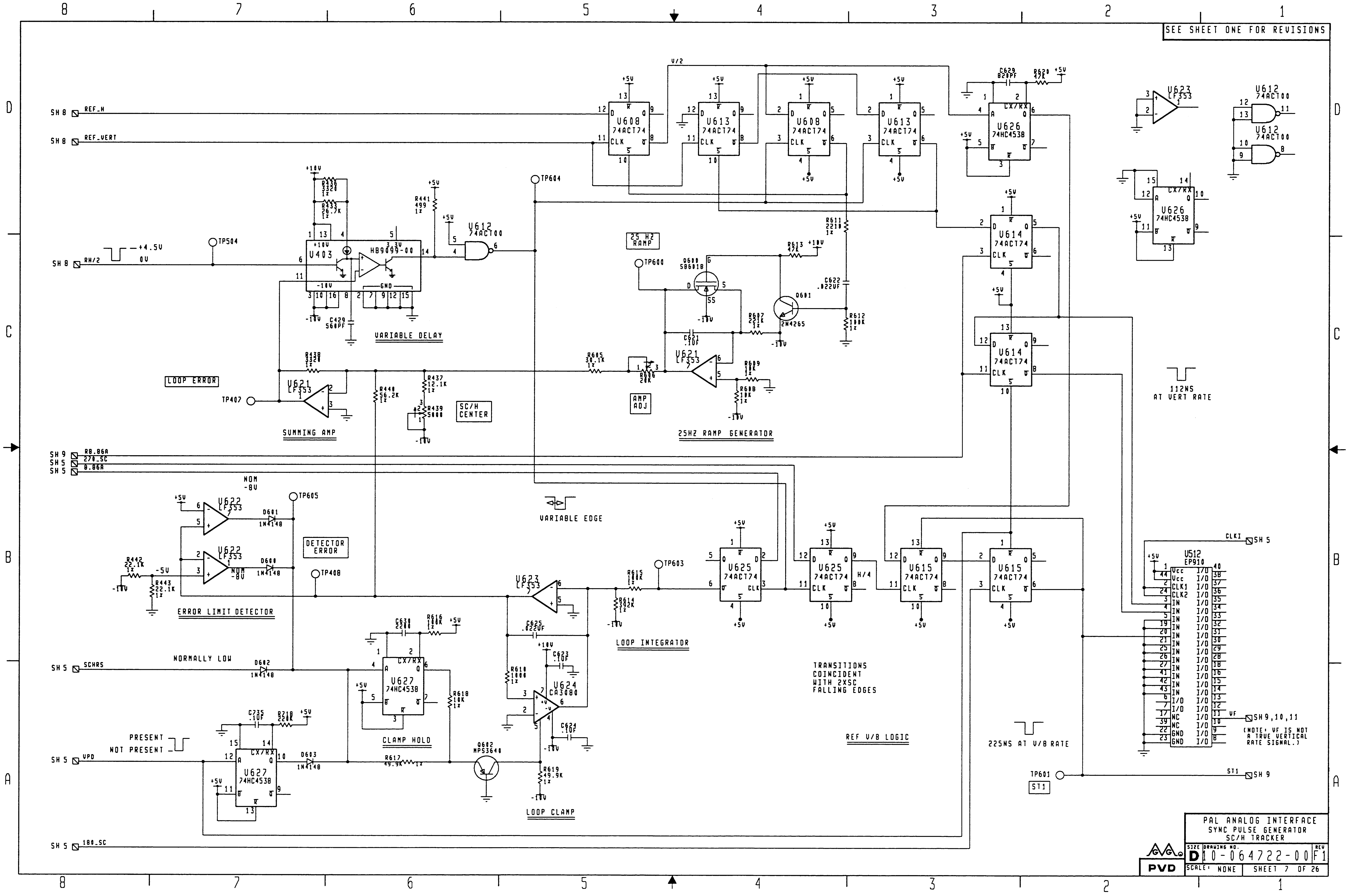
SYNC SEPARATOR

PAL ANALOG INTERFACE
SYNC PULSE GENERATOR
SYNC SEPARATOR

PVD

SIZE	DRAWING NO.	REV
D	10-064722-00	F1

SCALE: NONE | SHEET 6 OF 26


SEE SHEET ONE FOR REVISIONS
SH 8 REF_H
SH 8 REF_VERT
SH 8 RH/2
+4.5V
0V
TP504
U403
HB9099-00
VARIABLE DELAY
C429 560PF
R436 332K
R433 26.7K
R441 499
U612 74ACT00
TP604
U608 74ACT74
U613 74ACT74
U608 74ACT74
U613 74ACT74
V/2
U626 74HC4538
C629 820PF
R620 47K
U614 74ACT74
U614 74ACT74
U623 LF353
U612 74ACT00
U612 74ACT00
U626 74HC4538
25 HZ RAMP
TP600
Q600 SD6018
Q601 2N4265
R613 47K
R611 221K
C622 .022UF
R612 100K
R607 221K
C621 .10F
R605 30.1K
R606 20K
U621 LF353
R609 10K
R608 10K
AMP ADJ
25HZ RAMP GENERATOR
112NS AT VERT RATE
LOOP ERROR
R438 332K
U621 LF353
TP407
SUMMING AMP
R440 56.2K
R437 12.1K
R439 5000
SC/H CENTER
SH 9 R8.86A
SH 5 270.SC
SH 5 8.86A
NOM -8V
U622 LF353
D601 1N4148
TP605
U622 LF353
D600 1N4148
R442 22.1K
R443 22.1K
-5V
DETECTOR ERROR
TP408
ERROR LIMIT DETECTOR
VARIABLE EDGE
U623 LF353
R615 100K
TP603
R614 392K
C625 .022UF
LOOP INTEGRATOR
U625 74ACT74
U625 74ACT74
H/4
U615 74ACT74
U615 74ACT74
CLKI SH 5
U512 EP910
SH 5 SCHRS
NORMALLY LOW
D602 1N4148
C634 2200
R616 100K
U627 74HC4538
R618 10K
CLAMP HOLD
R610 1000
C623 .10F
U624 CA3080
C624 .10F
TRANSITIONS COINCIDENT WITH 2XSC FALLING EDGES
REF V/8 LOGIC
225NS AT V/8 RATE
VF SH 9,10,11
(NOTE: VF IS NOT A TRUE VERTICAL RATE SIGNAL.)
SH 5 VPD
PRESENT
NOT PRESENT
C735 .10F
R210 220K
U627 74HC4538
D603 1N4148
R617 49.9K
Q602 MPS3640
R619 49.9K
LOOP CLAMP
TP601
ST1
ST1 SH 9
SH 5 180.SC

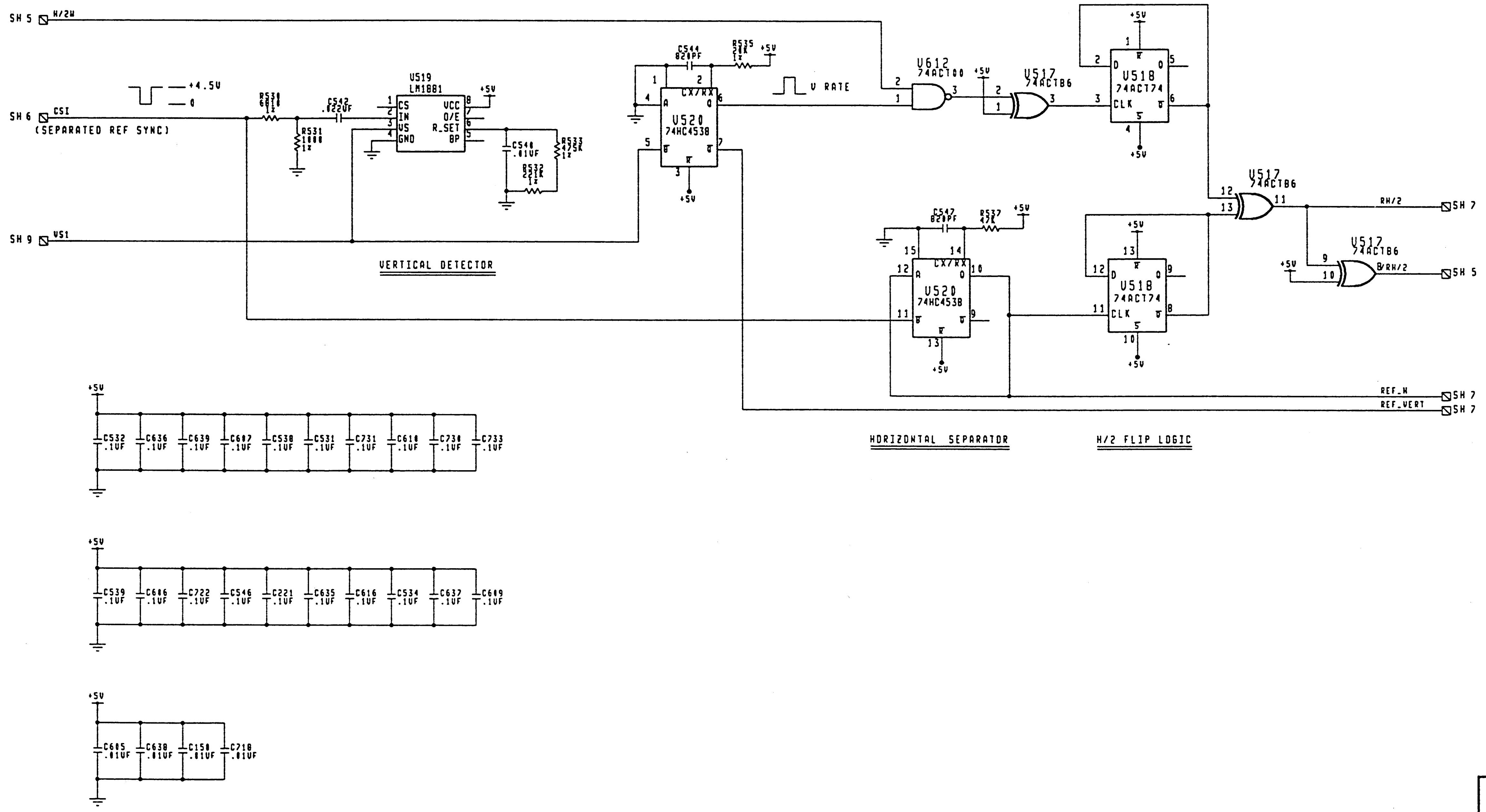
PAL ANALOG INTERFACE
SYNC PULSE GENERATOR
SC/H TRACKER

PVD

SIZE	DRAWING NO.	REV
D	10-064722-00	F1

SCALE: NONE SHEET 7 OF 26

SEE SHEET ONE FOR REVISIONS

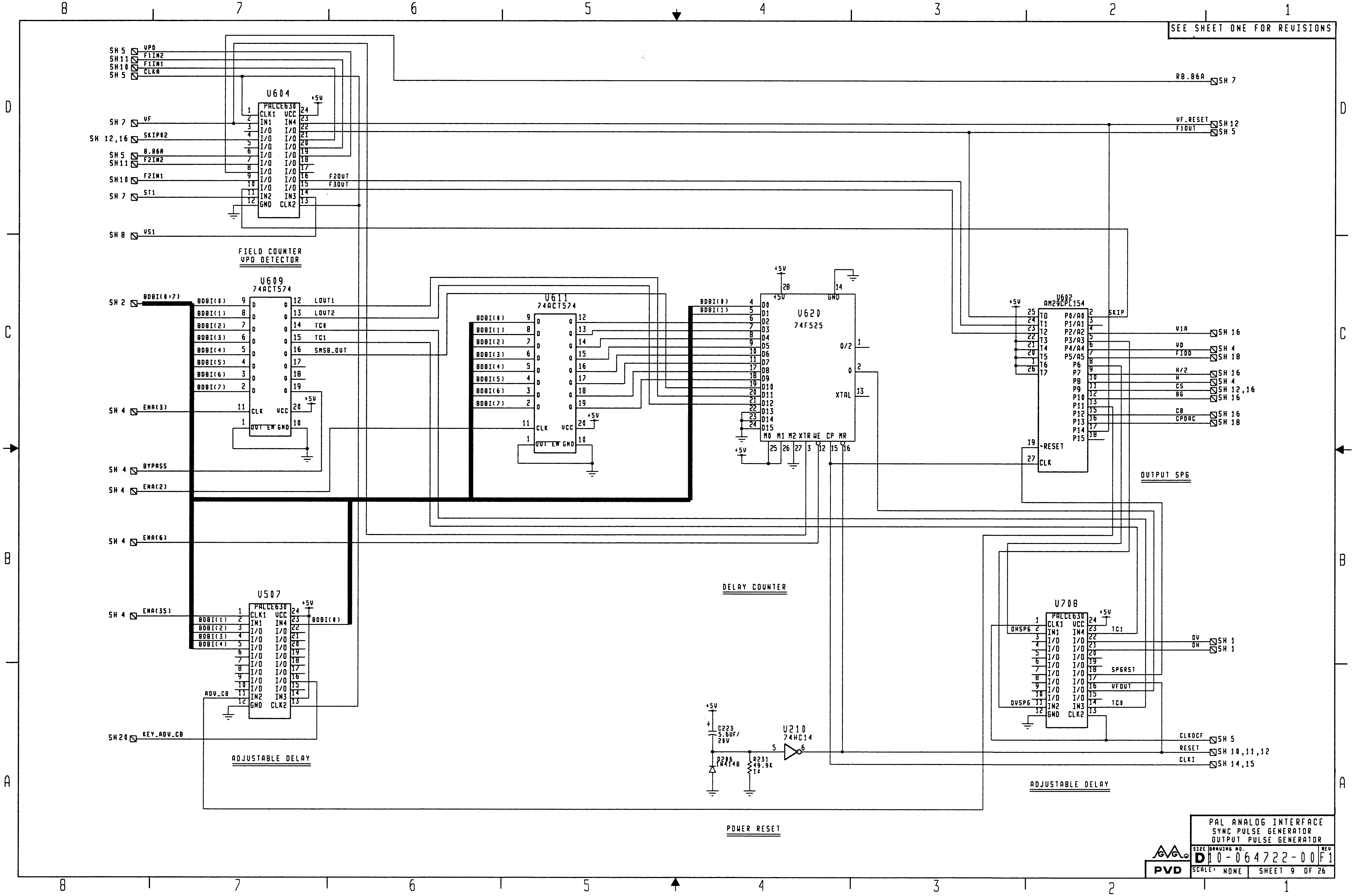

SH 5
H/2W
SH 6
CSI
(SEPARATED REF SYNC)
+4.5V
0
R530
6810
1%
R531
1000
1%
C542
.022UF
U519
LM1881
CS
IN
VS
GND
VCC
O/E
R_SET
BP
+5V
C540
.01UF
R533
475K
1%
R532
221K
1%
SH 9
VS1
VERTICAL DETECTOR
C544
820PF
R535
20K
1%
+5V
CX/RX
U520
74HC4538
+5V
V RATE
U612
74AC100
U517
74ACT86
U518
74ACT74
D
CLK
+5V
U517
74ACT86
RH/2
SH 7
U517
74ACT86
B/RH/2
SH 5
C547
820PF
R537
47K
+5V
CX/RX
U520
74HC4538
U518
74ACT74
REF_H
SH 7
REF_VERT
SH 7
HORIZONTAL SEPARATOR
H/2 FLIP LOGIC
+5V
C532 .1UF
C636 .1UF
C639 .1UF
C607 .1UF
C538 .1UF
C531 .1UF
C731 .1UF
C610 .1UF
C730 .1UF
C733 .1UF
+5V
C539 .1UF
C606 .1UF
C722 .1UF
C546 .1UF
C221 .1UF
C635 .1UF
C616 .1UF
C534 .1UF
C637 .1UF
C609 .1UF
+5V
C605 .01UF
C638 .01UF
C150 .01UF
C710 .01UF

PVD

PAL ANALOG INTERFACE
SC/H TRACKER
REFERENCE SIGNALS

SIZE D
DRAWING NO. 10-064722-00
REV F1
SCALE: NONE
SHEET 8 OF 26

SEE SHEET ONE FOR REVISIONS


FIELD COUNTER
VPD DETECTOR
U604
PALCE630
U609
74ACT574
U611
74ACT574
U620
74F525
U602
AM29CPL154
U507
PALCE630
U708
PALCE630
U210
74HC14
C223
5.6UF/
20V
D206
1N4148
R231
49.9K
1%
DELAY COUNTER
OUTPUT SPG
ADJUSTABLE DELAY
ADJUSTABLE DELAY
POWER RESET
SH 5 VPD
SH 11 F1IN2
SH 10 F1IN1
SH 5 CLKA
SH 7 VF
SH 12,16 SKIP#2
SH 5 8.86A
SH 11 F2IN2
SH 10 F2IN1
SH 7 ST1
SH 8 VS1
F2OUT
F3OUT
R8.86A SH 7
VF_RESET SH 12
F1OUT SH 5
SH 2 BDBI(0:7)
SH 4 ENA(3)
SH 4 BYPASS
SH 4 ENA(2)
SH 4 ENA(6)
SH 4 ENA(35)
SH20 KEY_ADV_CB
ADV_CB
LOUT1
LOUT2
TC0
TC1
SMSB_OUT
SKIP
V1A SH 16
VD SH 4
F1OD SH 18
H/2 SH 16
H SH 4
CS SH 12,16
B6 SH 16
CB SH 16
CPDAC SH 18
DHSPG
DVSPG
TC1
DV SH 1
DH SH 1
SPGRST
VFOUT
TC0
CLKDCF SH 5
RESET SH 10,11,12
CLKI SH 14,15
+5V

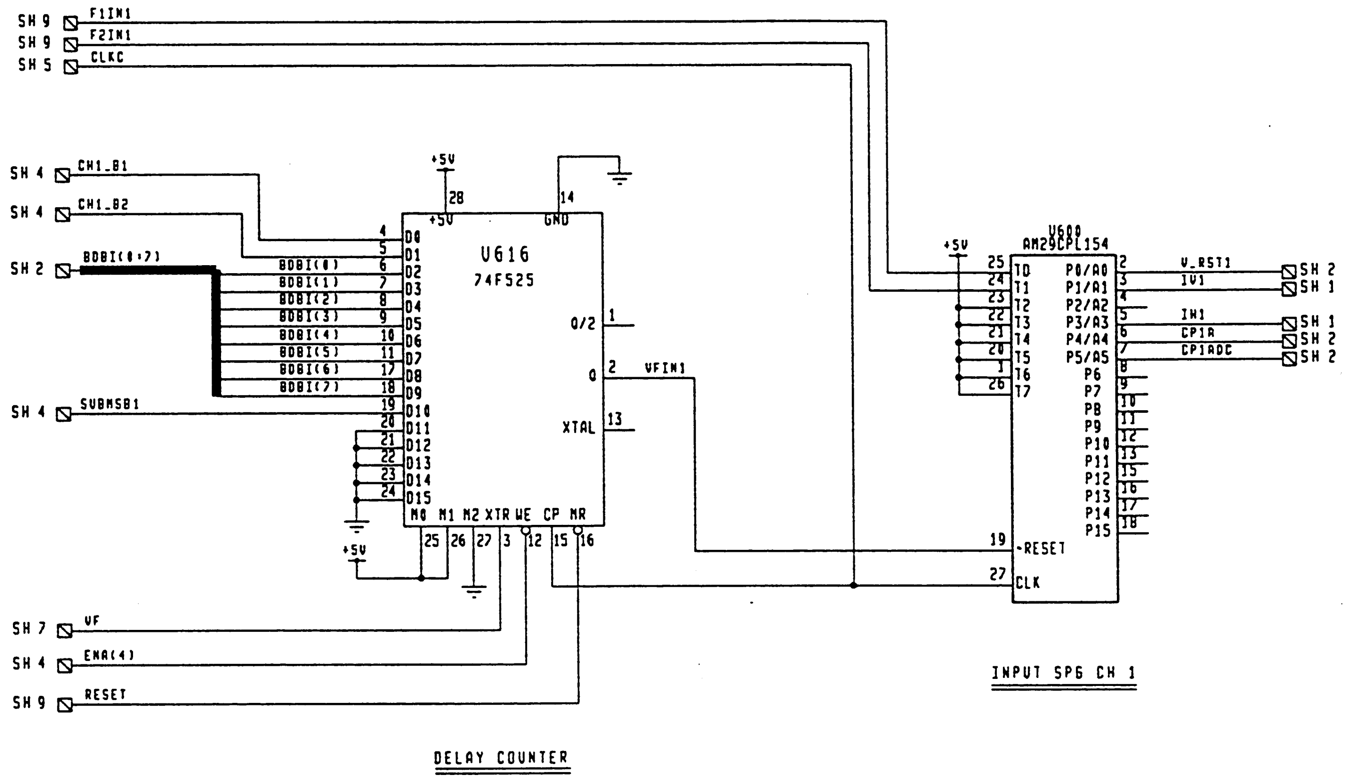
PAL ANALOG INTERFACE
SYNC PULSE GENERATOR
OUTPUT PULSE GENERATOR

SIZE D | DRAWING NO. 10-064722-00 | REV F1

PVD

SCALE: NONE | SHEET 9 OF 26

SEE SHEET ONE FOR REVISIONS


SH 9 F1IN1
SH 9 F2IN1
SH 5 CLKC
SH 4 CH1_B1
SH 4 CH1_B2
SH 2 BDBI(0:7)
BDBI(0)
BDBI(1)
BDBI(2)
BDBI(3)
BDBI(4)
BDBI(5)
BDBI(6)
BDBI(7)
SH 4 SUBMSB1
+5V
28
14
+5V
GND
U616
74F525
D0 D1 D2 D3 D4 D5 D6 D7 D8 D9 D10 D11 D12 D13 D14 D15
4 5 6 7 8 9 10 11 17 18 19 20 21 22 23 24
Q/2 1
Q 2 VFIN1
XTAL 13
M0 M1 M2 XTR WE CP MR
25 26 27 3 12 15 16
+5V
SH 7 VF
SH 4 ENA(4)
SH 9 RESET
DELAY COUNTER
U600
AM29CPL154
+5V
25 T0
24 T1
23 T2
22 T3
21 T4
20 T5
1 T6
26 T7
P0/A0 2 V_RST1 SH 2
P1/A1 3 IV1 SH 1
P2/A2 4
P3/A3 5 IH1 SH 1
P4/A4 6 CP1A SH 2
P5/A5 7 CP1ADC SH 2
P6 8
P7 9
P8 10
P9 11
P10 12
P11 13
P12 15
P13 16
P14 17
P15 18
19 -RESET
27 CLK
INPUT SPG CH 1

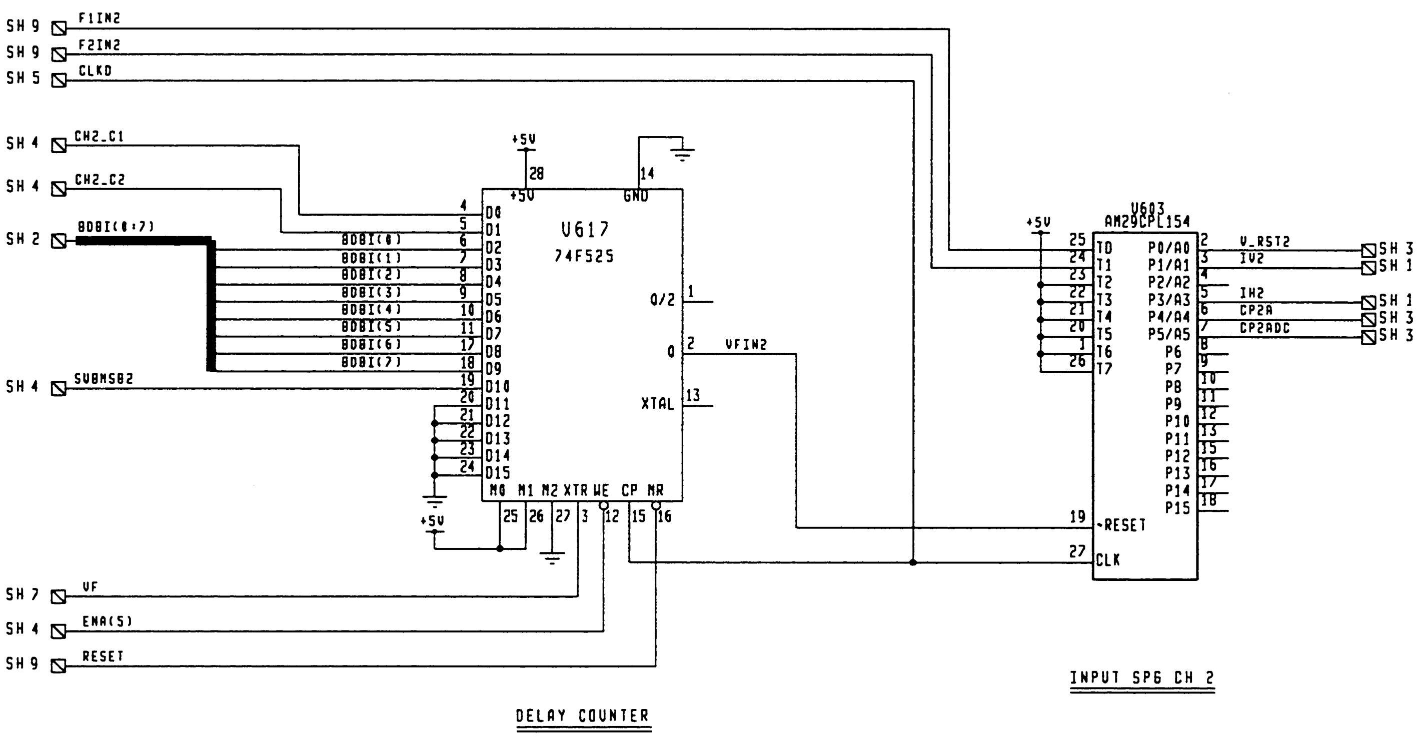
PAL ANALOG INTERFACE
SYNC PULSE GENERATOR
INPUT #1 PULSE GENERATOR

PVD

SIZE	DRAWING NO.	REV
D	10-064722-00	F1

SCALE: NONE SHEET 10 OF 26

SEE SHEET ONE FOR REVISIONS



SH 9 F1IN2
SH 9 F2IN2
SH 5 CLKD
SH 4 CH2_C1
SH 4 CH2_C2
SH 2 BDBI(0:7)
BDBI(0)
BDBI(1)
BDBI(2)
BDBI(3)
BDBI(4)
BDBI(5)
BDBI(6)
BDBI(7)
SH 4 SUBMSB2
+5V
28
14
+5V
GND
U617
74F525
D0 D1 D2 D3 D4 D5 D6 D7 D8 D9 D10 D11 D12 D13 D14 D15
4 5 6 7 8 9 10 11 17 18 19 20 21 22 23 24
Q/2 1
Q 2 VFIN2
XTAL 13
M0 M1 M2 XTR WE CP MR
25 26 27 3 12 15 16
+5V
SH 7 VF
SH 4 ENA(5)
SH 9 RESET
DELAY COUNTER
U603
AM29CPL154
+5V
25 T0
24 T1
23 T2
22 T3
21 T4
20 T5
1 T6
26 T7
19 ~RESET
27 CLK
P0/A0 2 V_RST2 SH 3
P1/A1 3 IV2 SH 1
P2/A2 4
P3/A3 5 IH2 SH 1
P4/A4 6 CP2A SH 3
P5/A5 7 CP2ADC SH 3
P6 8
P7 9
P8 10
P9 11
P10 12
P11 13
P12 15
P13 16
P14 17
P15 18
INPUT SPG CH 2

PVD

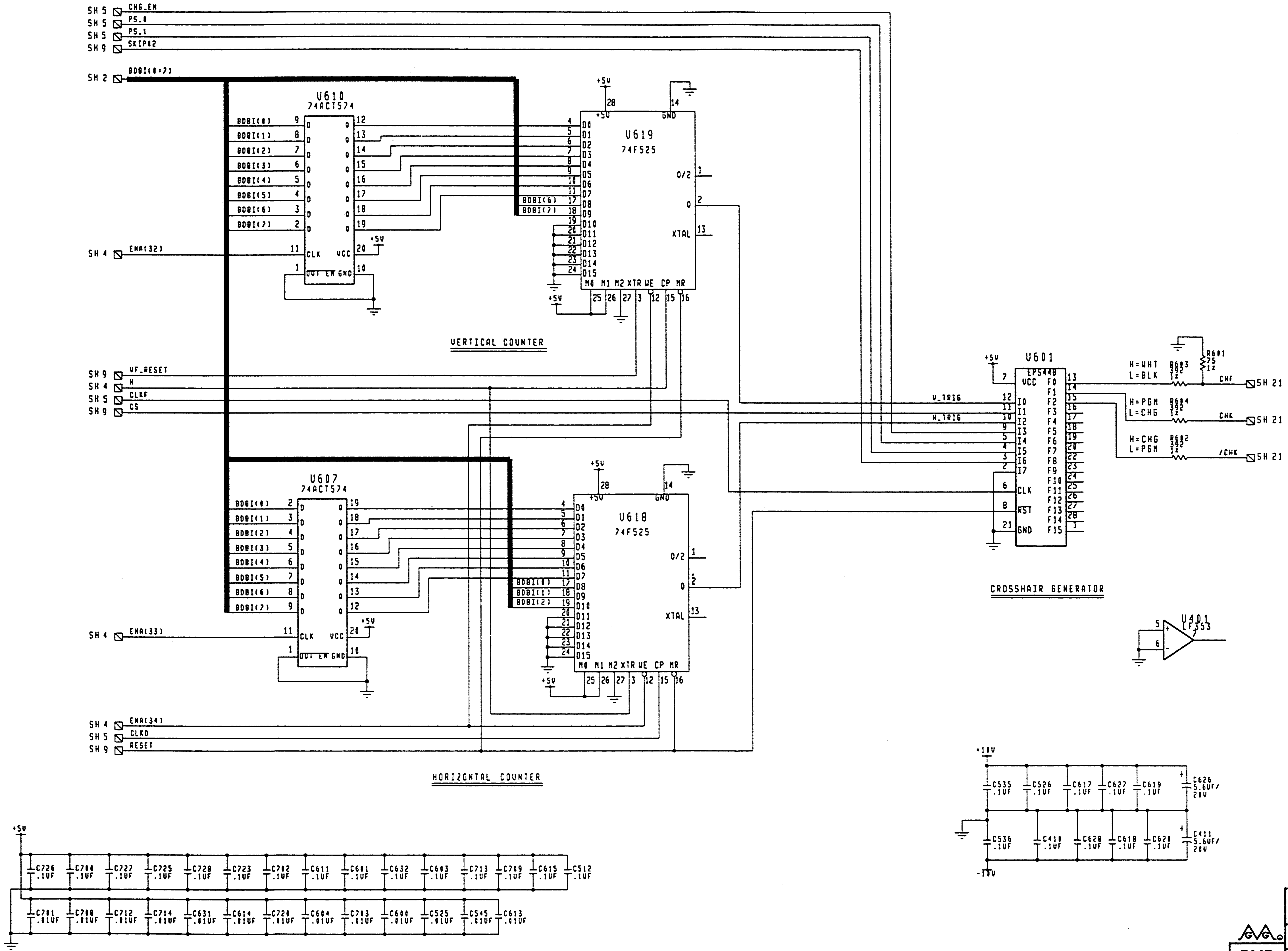
PAL ANALOG INTERFACE
SYNC PULSE GENERATOR
INPUT #2 PULSE GENERATOR

SIZE	DRAWING NO.	REV
D	10-064722-00	F1

SCALE: NONE

SHEET 11 OF 26

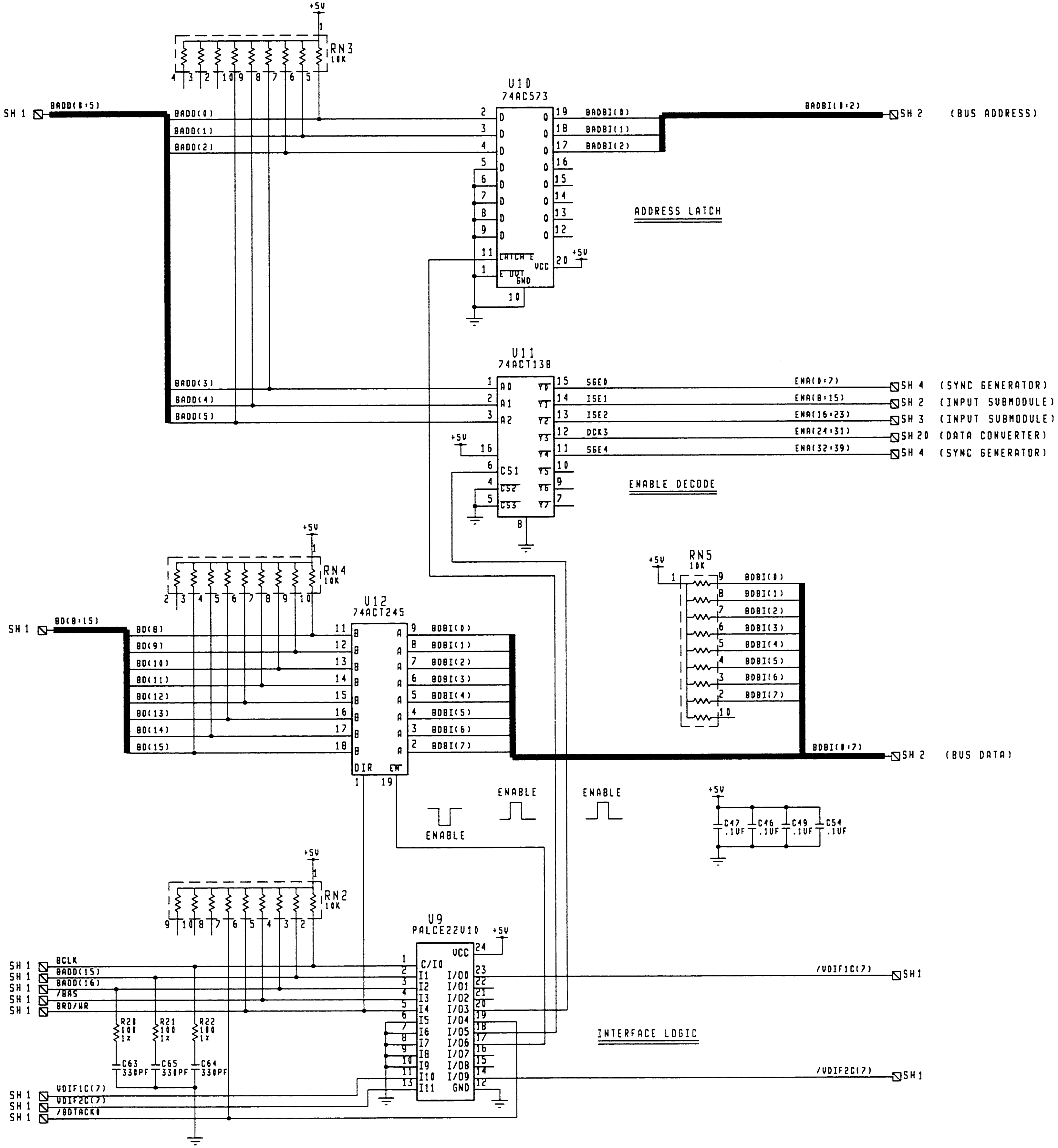
SEE SHEET ONE FOR REVISIONS


SH 5 CHG_EN
SH 5 PS_0
SH 5 PS_1
SH 9 SKIP02
SH 2 BDBI(0:7)
U610
74ACT574
BDBI(0)
BDBI(1)
BDBI(2)
BDBI(3)
BDBI(4)
BDBI(5)
BDBI(6)
BDBI(7)
SH 4 ENA(32)
CLK
VCC
OUT EN
GND
+5V
U619
74F525
D0
D15
M0 M1 M2 XTR WE CP MR
O/2
O
XTAL
VERTICAL COUNTER
SH 9 VF_RESET
SH 4 H
SH 5 CLKF
SH 9 CS
U607
74ACT574
SH 4 ENA(33)
U618
74F525
BDBI(0)
BDBI(1)
BDBI(2)
SH 4 ENA(34)
SH 5 CLKD
SH 9 RESET
HORIZONTAL COUNTER
U601
EP544B
VCC
I0
I7
CLK
RST
GND
F0
F15
V_TRIG
H_TRIG
H=WHT
L=BLK
R603
392
1%
R601
75
1%
CHF
SH 21
H=PGM
L=CHG
R604
392
1%
CHK
SH 21
H=CHG
L=PGM
R602
392
1%
/CHK
SH 21
CROSSHAIR GENERATOR
U401
LF353
+10V
-10V
C535 .1UF
C526 .1UF
C617 .1UF
C627 .1UF
C619 .1UF
C626 5.6UF/ 20V
C536 .1UF
C410 .1UF
C628 .1UF
C618 .1UF
C620 .1UF
C411 5.6UF/ 20V
+5V
C726 .1UF
C700 .1UF
C727 .1UF
C725 .1UF
C720 .1UF
C723 .1UF
C702 .1UF
C611 .1UF
C601 .1UF
C632 .1UF
C603 .1UF
C713 .1UF
C709 .1UF
C615 .1UF
C512 .1UF
C701 .01UF
C708 .01UF
C712 .01UF
C714 .01UF
C631 .01UF
C614 .01UF
C720 .01UF
C604 .01UF
C703 .01UF
C600 .01UF
C525 .01UF
C545 .01UF
C613 .01UF
PVD

PAL ANALOG INTERFACE
CROSSHAIR GENERATOR

SIZE	DRAWING NO.	REV
D	10-064722-00	F1
SCALE: NONE	SHEET 12 OF 26	

SEE SHEET ONE FOR REVISIONS


RN3 10K
U10 74AC573
SH 1 BADD(0:5)
BADD(0)
BADD(1)
BADD(2)
BADBI(0)
BADBI(1)
BADBI(2)
BADBI(0:2) SH 2 (BUS ADDRESS)
ADDRESS LATCH
LATCH E
E OUT
VCC
GND
+5V
U11 74ACT138
BADD(3)
BADD(4)
BADD(5)
SGE0 ENA(0:7) SH 4 (SYNC GENERATOR)
ISE1 ENA(8:15) SH 2 (INPUT SUBMODULE)
ISE2 ENA(16:23) SH 3 (INPUT SUBMODULE)
DCK3 ENA(24:31) SH 20 (DATA CONVERTER)
SGE4 ENA(32:39) SH 4 (SYNC GENERATOR)
ENABLE DECODE
RN4 10K
U12 74ACT245
SH 1 BD(8:15)
BD(8)
BD(9)
BD(10)
BD(11)
BD(12)
BD(13)
BD(14)
BD(15)
BDBI(0)
BDBI(1)
BDBI(2)
BDBI(3)
BDBI(4)
BDBI(5)
BDBI(6)
BDBI(7)
DIR
EN
RN5 10K
BDBI(0:7) SH 2 (BUS DATA)
ENABLE
ENABLE
ENABLE
C47 .1UF
C46 .1UF
C49 .1UF
C54 .1UF
RN2 10K
U9 PALCE22V10
SH 1 BCLK
SH 1 BADD(15)
SH 1 BADD(16)
SH 1 /BAS
SH 1 BRD/WR
R20 100 1%
R21 100 1%
R22 100 1%
C63 330PF
C65 330PF
C64 330PF
SH 1 VDIF1C(7)
SH 1 VDIF2C(7)
SH 1 /BDTACK0
/VDIF1C(7) SH1
/VDIF2C(7) SH1
INTERFACE LOGIC

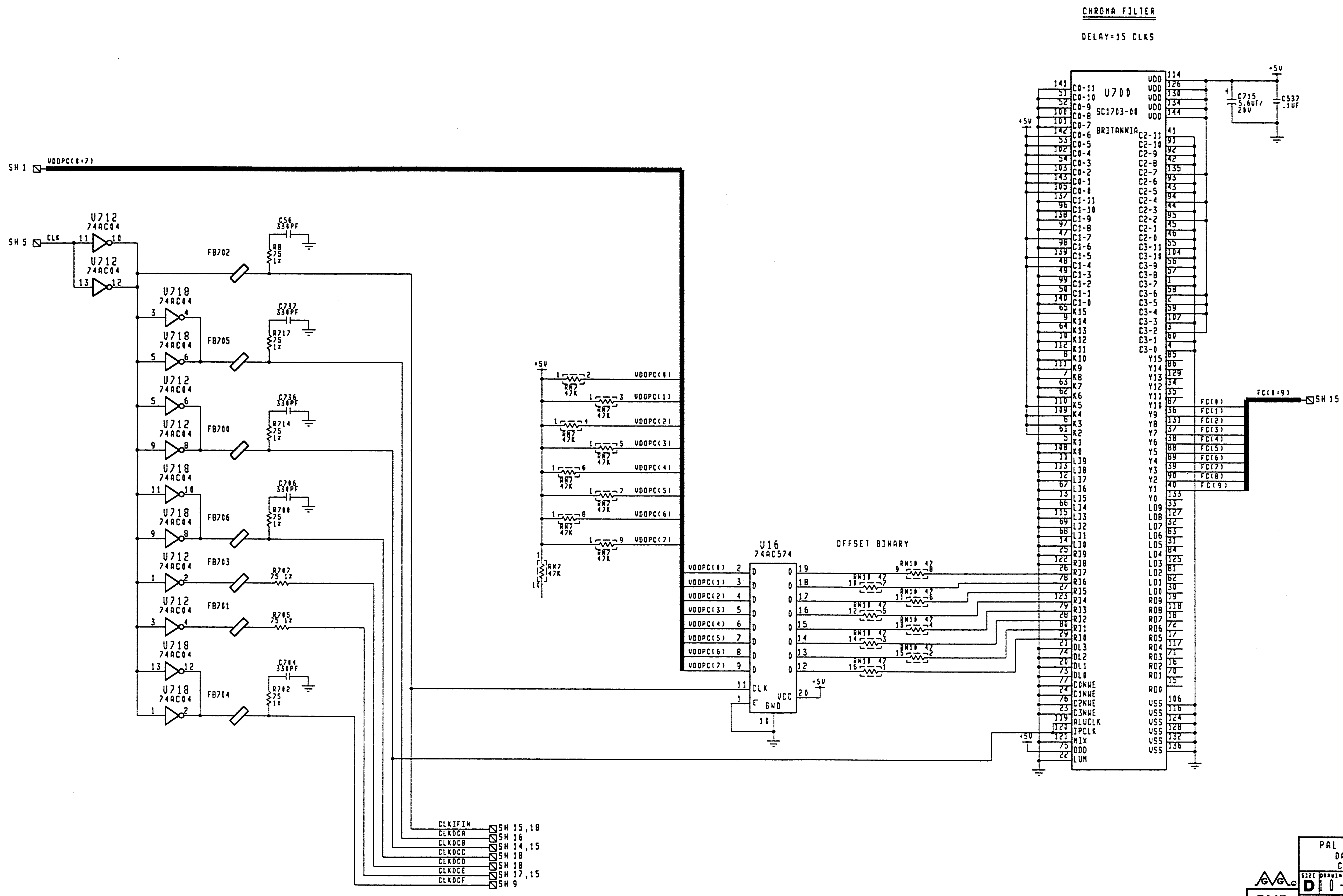
PAL ANALOG INTERFACE
BUS INTERFACE

PVD

SIZE	DRAWING NO.	REV
D	10-064722-00	F1

SCALE: NONE SHEET 13 OF 26

SEE SHEET ONE FOR REVISIONS


CHROMA FILTER
DELAY=15 CLKS
U700
SC1703-00
BRITANNIA
C715 5.6UF/ 20V
C537 .1UF
+5V
SH 1
VDOPC(0:7)
SH 5
CLK
U712 74AC04
U718 74AC04
FB702
FB705
FB700
FB706
FB703
FB701
FB704
C56 330PF
R8 75 1%
C732 330PF
R717 75 1%
C736 330PF
R714 75 1%
C706 330PF
R700 75 1%
R707 75 1%
R705 75 1%
C704 330PF
R702 75 1%
RN7 47K
VDOPC(0)
VDOPC(1)
VDOPC(2)
VDOPC(3)
VDOPC(4)
VDOPC(5)
VDOPC(6)
VDOPC(7)
U16 74AC574
CLK
VCC
GND
OFFSET BINARY
RN10 47
FC(0:9)
SH 15
FC(0)
FC(1)
FC(2)
FC(3)
FC(4)
FC(5)
FC(6)
FC(7)
FC(8)
FC(9)
CLKIFIN
CLKDCA
CLKDCB
CLKDCC
CLKDCD
CLKDCE
CLKDCF
SH 15,18
SH 16
SH 14,15
SH 18
SH 18
SH 17,15
SH 9

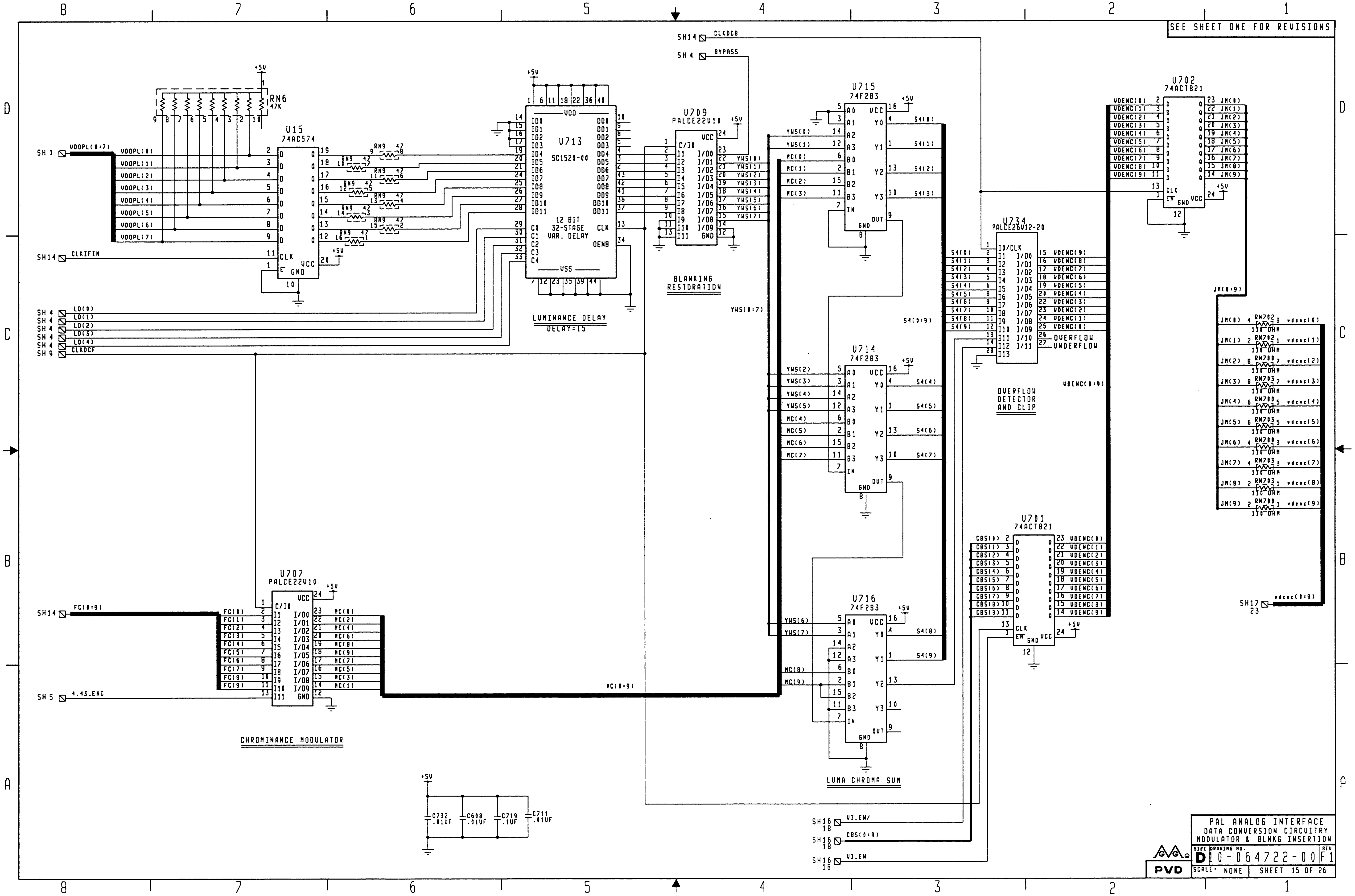
PVD

PAL ANALOG INTERFACE
DATA CONVERSION
CHROMA FILTER

SIZE	DRAWING NO.	REV
D	10-064722-00	F1

SCALE: NONE SHEET 14 OF 26

SEE SHEET ONE FOR REVISIONS

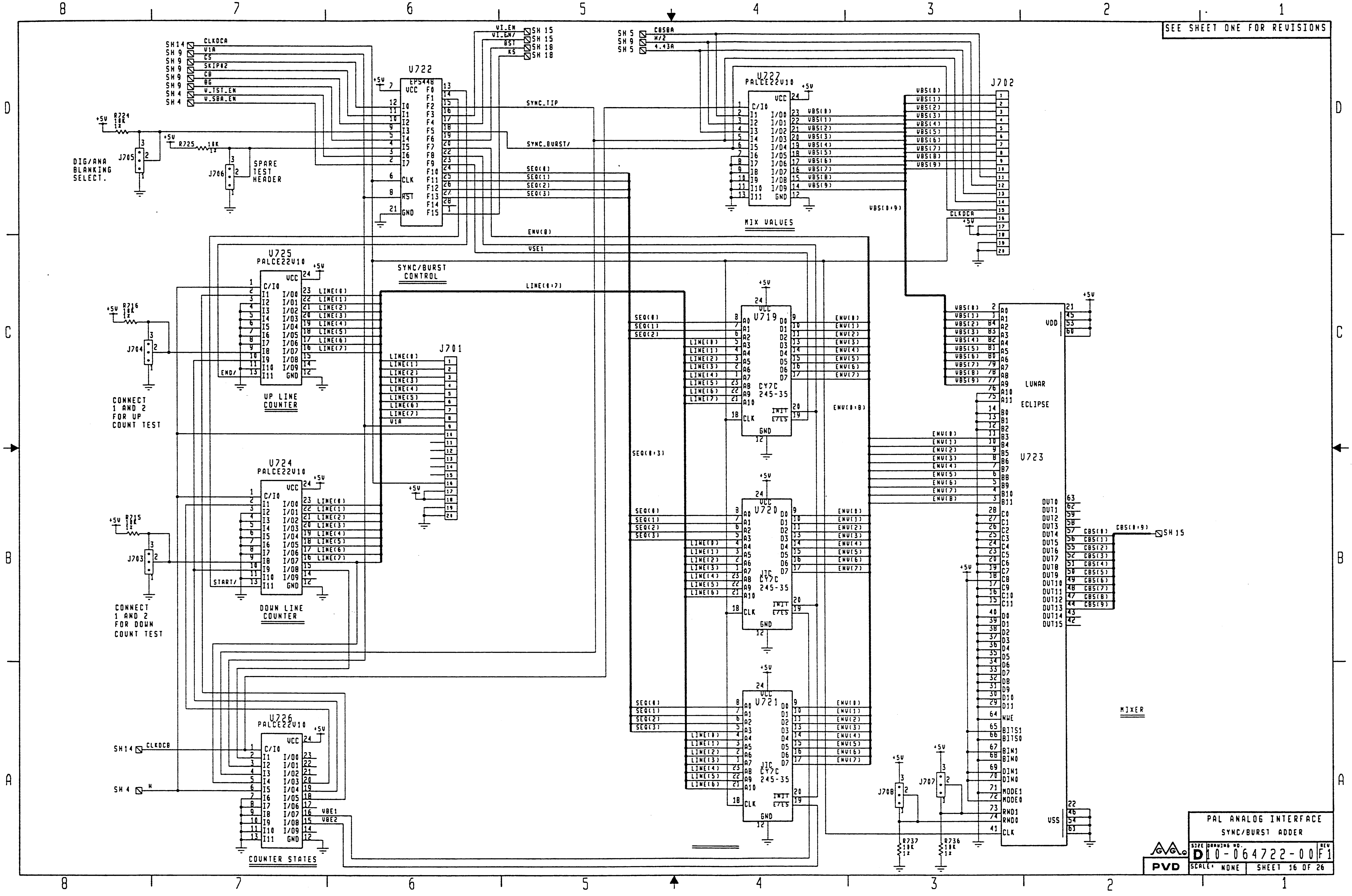

8
7
6
5
4
3
2
1
D
C
B
A
SH 1 VDOPL(0:7)
VDOPL(0) VDOPL(1) VDOPL(2) VDOPL(3) VDOPL(4) VDOPL(5) VDOPL(6) VDOPL(7)
RN6 47K
+5V
U15 74AC574
CLK
VCC
GND
SH14 CLKIFIN
RN9 42
RN9 47
+5V
U713 SC1520-00
VDD
VSS
ID0 ID1 ID2 ID3 ID4 ID5 ID6 ID7 ID8 ID9 ID10 ID11
OD0 OD1 OD2 OD3 OD4 OD5 OD6 OD7 OD8 OD9 OD10 OD11
C0 C1 C2 C3 C4
CLK
OENB
12 BIT 32-STAGE VAR. DELAY
LUMINANCE DELAY
DELAY=15
SH 4 LD(0)
SH 4 LD(1)
SH 4 LD(2)
SH 4 LD(3)
SH 4 LD(4)
SH 9 CLKDCF
SH14 CLKDCB
SH 4 BYPASS
U709 PALCE22V10
C/I0 I1 I2 I3 I4 I5 I6 I7 I8 I9 I10 I11
I/O0 I/O1 I/O2 I/O3 I/O4 I/O5 I/O6 I/O7 I/O8 I/O9
YWS(0) YWS(1) YWS(2) YWS(3) YWS(4) YWS(5) YWS(6) YWS(7)
BLANKING RESTORATION
YWS(0:7)
U715 74F283
A0 A1 A2 A3 B0 B1 B2 B3 IN
Y0 Y1 Y2 Y3 OUT
MC(0) MC(1) MC(2) MC(3)
S4(0) S4(1) S4(2) S4(3)
U714 74F283
YWS(2) YWS(3) YWS(4) YWS(5)
MC(4) MC(5) MC(6) MC(7)
S4(4) S4(5) S4(6) S4(7)
U716 74F283
YWS(6) YWS(7)
MC(8) MC(9)
S4(8) S4(9)
LUMA CHROMA SUM
S4(0:9)
U734 PALCE26V12-20
I0/CLK
VDENC(0) ... VDENC(9)
OVERFLOW
UNDERFLOW
OVERFLOW DETECTOR AND CLIP
VDENC(0:9)
U702 74ACT821
JM(0) JM(1) JM(2) JM(3) JM(4) JM(5) JM(6) JM(7) JM(8) JM(9)
CLK
EN
JM(0:9)
RN702 RN703 RN700
110 OHM
vdenc(0) vdenc(1) vdenc(2) vdenc(3) vdenc(4) vdenc(5) vdenc(6) vdenc(7) vdenc(8) vdenc(9)
SH17 23 vdenc(0:9)
U701 74ACT821
CBS(0) CBS(1) CBS(2) CBS(3) CBS(4) CBS(5) CBS(6) CBS(7) CBS(8) CBS(9)
U707 PALCE22V10
SH14 FC(0:9)
FC(0) FC(1) FC(2) FC(3) FC(4) FC(5) FC(6) FC(7) FC(8) FC(9)
MC(0) MC(1) MC(2) MC(3) MC(4) MC(5) MC(6) MC(7) MC(8) MC(9)
MC(0:9)
SH 5 4.43_ENC
CHROMINANCE MODULATOR
+5V
C732 .01UF
C608 .01UF
C719 .1UF
C711 .01UF
SH16 18 VI_EN/
SH16 18 CBS(0:9)
SH16 18 VI_EN

PAL ANALOG INTERFACE
DATA CONVERSION CIRCUITRY
MODULATOR & BLNKG INSERTION

PVD

SIZE	DRAWING NO.	REV
D	10-064722-00	F1
SCALE: NONE	SHEET 15 OF 26	

SEE SHEET ONE FOR REVISIONS


U722
EP5448
U727
PALCE22V10
MIX VALUES
J702
U725
PALCE22V10
UP LINE COUNTER
U724
PALCE22V10
DOWN LINE COUNTER
U726
PALCE22V10
COUNTER STATES
SYNC/BURST CONTROL
J701
U719
CY7C 245-35
U720
CY7C 245-35
U721
CY7C 245-35
U723
LUNAR ECLIPSE
MIXER
DIG/ANA BLANKING SELECT.
J705
R724 10K 1%
R725 10K 1%
J706
SPARE TEST HEADER
R716 10K 1%
J704
CONNECT 1 AND 2 FOR UP COUNT TEST
R715 10K 1%
J703
CONNECT 1 AND 2 FOR DOWN COUNT TEST
J708
J707
R737 10K 1%
R736 10K 1%
SH14 CLKDCA
SH 9 V1A
SH 9 CS
SH 9 SKIP02
SH 9 CB
SH 9 BG
SH 4 V_TST_EN
SH 4 V_SBA_EN
VI_EN SH 15
VI_EN/ SH 15
BST SH 18
KS SH 18
SH 5 CBSBA
SH 9 H/2
SH 5 4.43A
SYNC_TIP
SYNC_BURST/
SEQ(0) SEQ(1) SEQ(2) SEQ(3)
SEQ(0:3)
ENV(0)
VSE1
LINE(0:7)
LINE(0) LINE(1) LINE(2) LINE(3) LINE(4) LINE(5) LINE(6) LINE(7)
ENV(0) ENV(1) ENV(2) ENV(3) ENV(4) ENV(5) ENV(6) ENV(7) ENV(8)
ENV(0:8)
VBS(0) VBS(1) VBS(2) VBS(3) VBS(4) VBS(5) VBS(6) VBS(7) VBS(8) VBS(9)
VBS(0:9)
CLKDCA
CBS(0) CBS(1) CBS(2) CBS(3) CBS(4) CBS(5) CBS(6) CBS(7) CBS(8) CBS(9)
CBS(0:9) SH 15
SH14 CLKDCB
SH 4 H
VBE1
VBE2
END/
START/
+5V

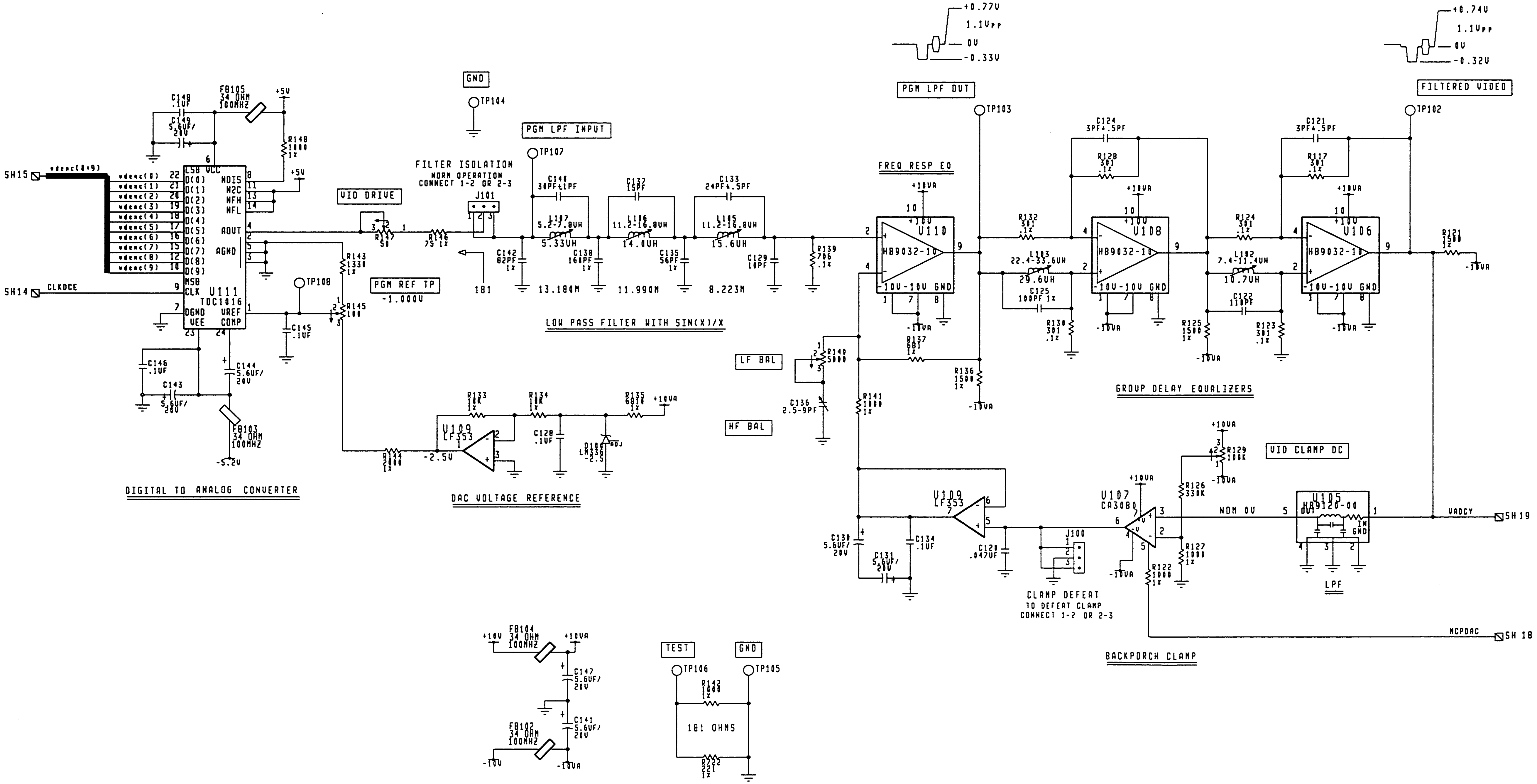
PAL ANALOG INTERFACE
SYNC/BURST ADDER

PVD

SIZE D | DRAWING NO. 10-064722-00 | REV F1

SCALE: NONE | SHEET 16 OF 26

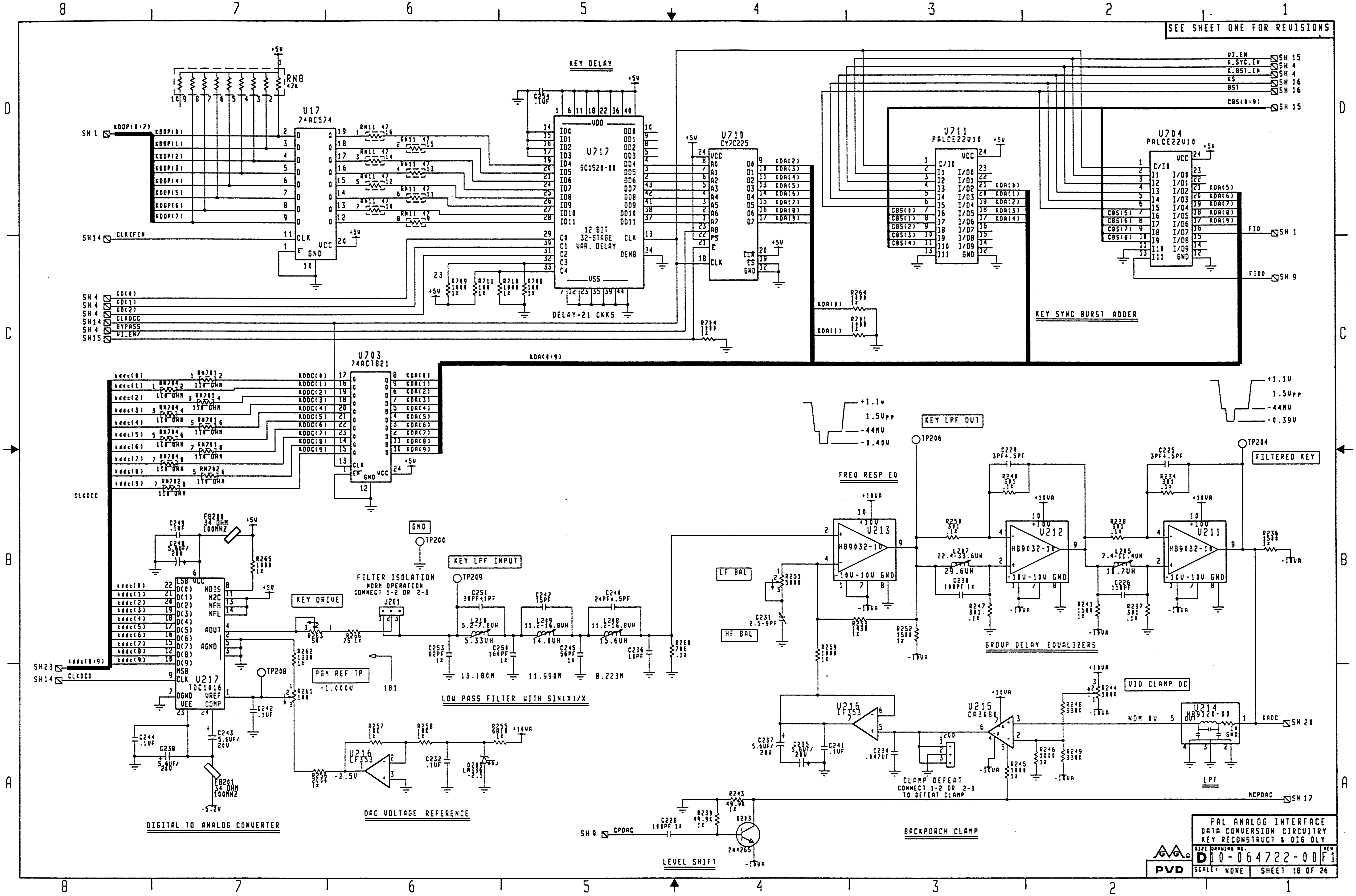
SEE SHEET ONE FOR REVISIONS


SH15
vdenc(0:9)
vdenc(0)
vdenc(1)
vdenc(2)
vdenc(3)
vdenc(4)
vdenc(5)
vdenc(6)
vdenc(7)
vdenc(8)
vdenc(9)
SH14
CLKDCE
C148 .1UF
C149 5.6UF/ 20V
FB105 34 OHM 100MHZ
+5V
R148 1000 1%
+5V
U111 TDC1016
LSB VCC
D(0) D(1) D(2) D(3) D(4) D(5) D(6) D(7) D(8) D(9)
MSB
CLK
DGND VEE
NDIS N2C NFH NFL
AOUT
AGND
VREF COMP
C146 .1UF
C143 5.6UF/ 20V
C144 5.6UF/ 20V
FB103 34 OHM 100MHZ
-5.2V
C145 .1UF
TP108
R143 1330 1%
R145 100
PGM REF TP
-1.000V
DIGITAL TO ANALOG CONVERTER
VID DRIVE
R147 50
R146 75 1%
FILTER ISOLATION
NORM OPERATION
CONNECT 1-2 OR 2-3
J101
181
GND
TP104
PGM LPF INPUT
TP107
C140 30PF±1PF
L107 5.2-7.8UH
5.33UH
C132 15PF
L106 11.2-16.8UH
14.0UH
C133 24PF±.5PF
L105 11.2-16.8UH
15.6UH
C142 82PF 1%
C138 160PF 1%
C135 56PF 1%
C129 10PF
R139 706 .1%
13.180M
11.990M
8.223M
LOW PASS FILTER WITH SIN(X)/X
R144 2000 1%
-2.5V
U109 LF353
R133 10K 1%
R134 10K 1%
R135 6810 1%
+10VA
C128 .1UF
D100 LM336 -2.5
ADJ
DAC VOLTAGE REFERENCE
+0.77V
1.1Vpp
0V
-0.33V
PGM LPF OUT
TP103
FREQ RESP EQ
+10VA
U110 HB9032-10
+10V
-10V -10V GND
-10VA
R137 681 1%
R140 5000
LF BAL
HF BAL
C136 2.5-9PF
R136 1500 1%
R141 1000 1%
-10VA
C124 3PF±.5PF
R128 301 .1%
R132 301 .1%
L103 22.4-33.6UH
29.6UH
C125 100PF 1%
R130 301 .1%
U108 HB9032-10
+0.74V
1.1Vpp
0V
-0.32V
FILTERED VIDEO
TP102
C121 3PF±.5PF
R117 301 .1%
R124 301 .1%
L102 7.4-11.4UH
10.7UH
C122 110PF
R125 1500 1%
R123 301 .1%
U106 HB9032-10
R121 1500 1%
-10VA
GROUP DELAY EQUALIZERS
+10VA
R129 100K
VID CLAMP DC
-10VA
U109 LF353
C130 5.6UF/ 20V
C131 5.6UF/ 20V
C134 .1UF
C120 .047UF
J100
CLAMP DEFEAT
TO DEFEAT CLAMP
CONNECT 1-2 OR 2-3
U107 CA3080
+10VA
-10VA
R126 330K
R127 1000 1%
R122 1000 1%
NOM 0V
U105 HB9120-00
OUT
IN
GND
LPF
VADCY
SH19
MCPDAC
SH 18
BACKPORCH CLAMP
FB104 34 OHM 100MHZ
+10V
+10VA
C147 5.6UF/ 20V
C141 5.6UF/ 20V
FB102 34 OHM 100MHZ
-10V
-10VA
TEST
GND
TP106
TP105
R142 1000 1%
181 OHMS
R222 221 1%

PAL ANALOG INTERFACE
DATA CONVERSION CIRCUITRY
VIDEO RECONSTRUCTION

PVD

SIZE D
DRAWING NO. 10-064722-00
REV F1
SCALE: NONE
SHEET 17 OF 26


SEE SHEET ONE FOR REVISIONS
KEY DELAY
RN8 47K
U17 74AC574
KDDP(0:7)
CLKIFIN
U717 SC1520-00
12 BIT 32-STAGE VAR. DELAY
DELAY=21 CKKS
U710 CY7C225
U711 PALCE22V10
U704 PALCE22V10
KEY SYNC BURST ADDER
VI_EN
K_SYC_EN
K_BST_EN
KS
BST
CBS(0:9)
FID
FIDD
KD(0)
KD(1)
KD(2)
CLKDCC
BYPASS
VI_EN/
KDA(0:9)
U703 74ACT821
CLKDCC
KEY LPF OUT
TP206
TP204
FILTERED KEY
FREQ RESP EQ
U213 HB9032-10
U212 HB9032-10
U211 HB9032-10
GROUP DELAY EQUALIZERS
LF BAL
HF BAL
+1.1V
1.5VPP
-44MV
-0.40V
-0.39V
GND
TP200
KEY LPF INPUT
TP209
FILTER ISOLATION
NORM OPERATION
CONNECT 1-2 OR 2-3
J201
KEY DRIVE
U217 TDC1016
PGM REF TP
-1.000V
TP208
LOW PASS FILTER WITH SIN(X)/X
13.180M
11.990M
8.223M
DIGITAL TO ANALOG CONVERTER
U216 LF353
-2.5V
DAC VOLTAGE REFERENCE
U216 LF353
U215 CA3080
VID CLAMP DC
U214 HB9120-00
NOM 0V
KADC
LPF
CLAMP DEFEAT
CONNECT 1-2 OR 2-3
TO DEFEAT CLAMP
BACKPORCH CLAMP
MCPDAC
CPDAC
Q203 2N4265
LEVEL SHIFT
SH 1
SH 4
SH 9
SH 14
SH 15
SH 16
SH 17
SH 20
SH 23

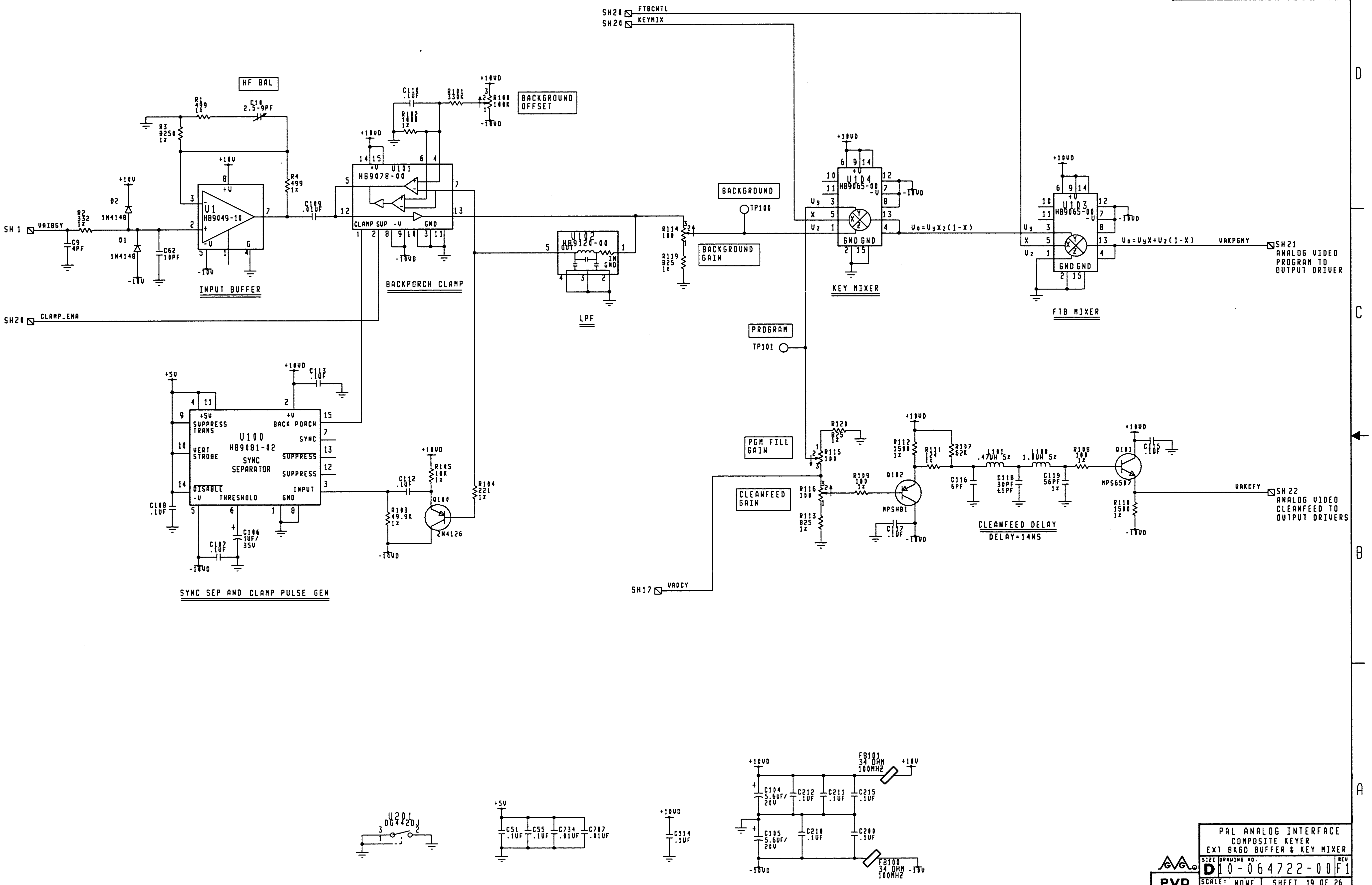
PAL ANALOG INTERFACE
DATA CONVERSION CIRCUITRY
KEY RECONSTRUCT & DIG DLY

PVD

SIZE D DRAWING NO. 10-064722-00 REV F1

SCALE: NONE SHEET 18 OF 26

SEE SHEET ONE FOR REVISIONS


HF BAL
INPUT BUFFER
SH 1 VAIBGY
R2 332 1%
C9 4PF
D2 1N4148
D1 1N4148
C62 10PF
R3 825Ω 1%
R1 499 1%
C10 2.5-9PF
R4 499 1%
U1 HB9049-10
+10V
-10V
C109 .01UF
BACKPORCH CLAMP
U101 HB9078-00
CLAMP SUP
C110 .1UF
R102 1000 1%
R101 330K
R100 100K
+10VD
-10VD
BACKGROUND OFFSET
SH20 CLAMP_ENA
LPF
U102 HB9120-00
OUT IN GND
R104 221 1%
R105 10K 1%
R103 49.9K 1%
C112 .1UF
Q100 2N4126
SYNC SEP AND CLAMP PULSE GEN
U100 HB9081-02 SYNC SEPARATOR
SUPPRESS TRANS
VERT STROBE
DISABLE
THRESHOLD
BACK PORCH
SYNC
SUPPRESS
INPUT
GND
+5V
C113 .1UF
C108 .1UF
C107 .1UF
C106 1UF/ 35V
SH20 FTBCNTL
SH20 KEYMIX
BACKGROUND
TP100
R114 100
R119 825 1%
BACKGROUND GAIN
KEY MIXER
U104 HB9065-00
Vy X Vz
Vo=VyXz(1-X)
FTB MIXER
U103 HB9065-00
Vo=VyX+Vz(1-X)
VAKPGMY
SH21 ANALOG VIDEO PROGRAM TO OUTPUT DRIVER
PROGRAM
TP101
PGM FILL GAIN
R120 825 1%
R115 100
CLEANFEED GAIN
R116 100
R113 825 1%
R109 100 1%
Q102 MPSH81
C117 .1UF
R112 1500 1%
R111 124 1%
R107 62K
L101 .47UH 5%
L100 1.00H 5%
C116 6PF
C118 30PF ±1PF
C119 56PF 1%
R108 100 1%
Q101 MPS6507
C115 .1UF
R110 1500 1%
CLEANFEED DELAY
DELAY=14NS
VAKCFY
SH22 ANALOG VIDEO CLEANFEED TO OUTPUT DRIVERS
SH17 VADCY
U201 DG442DJ
C51 .1UF
C55 .1UF
C734 .01UF
C707 .01UF
C114 .1UF
C104 5.6UF/ 20V
C212 .1UF
C211 .1UF
C215 .1UF
C105 5.6UF/ 20V
C210 .1UF
C200 .1UF
FB101 34 OHM 100MHZ
FB100 34 OHM 100MHZ

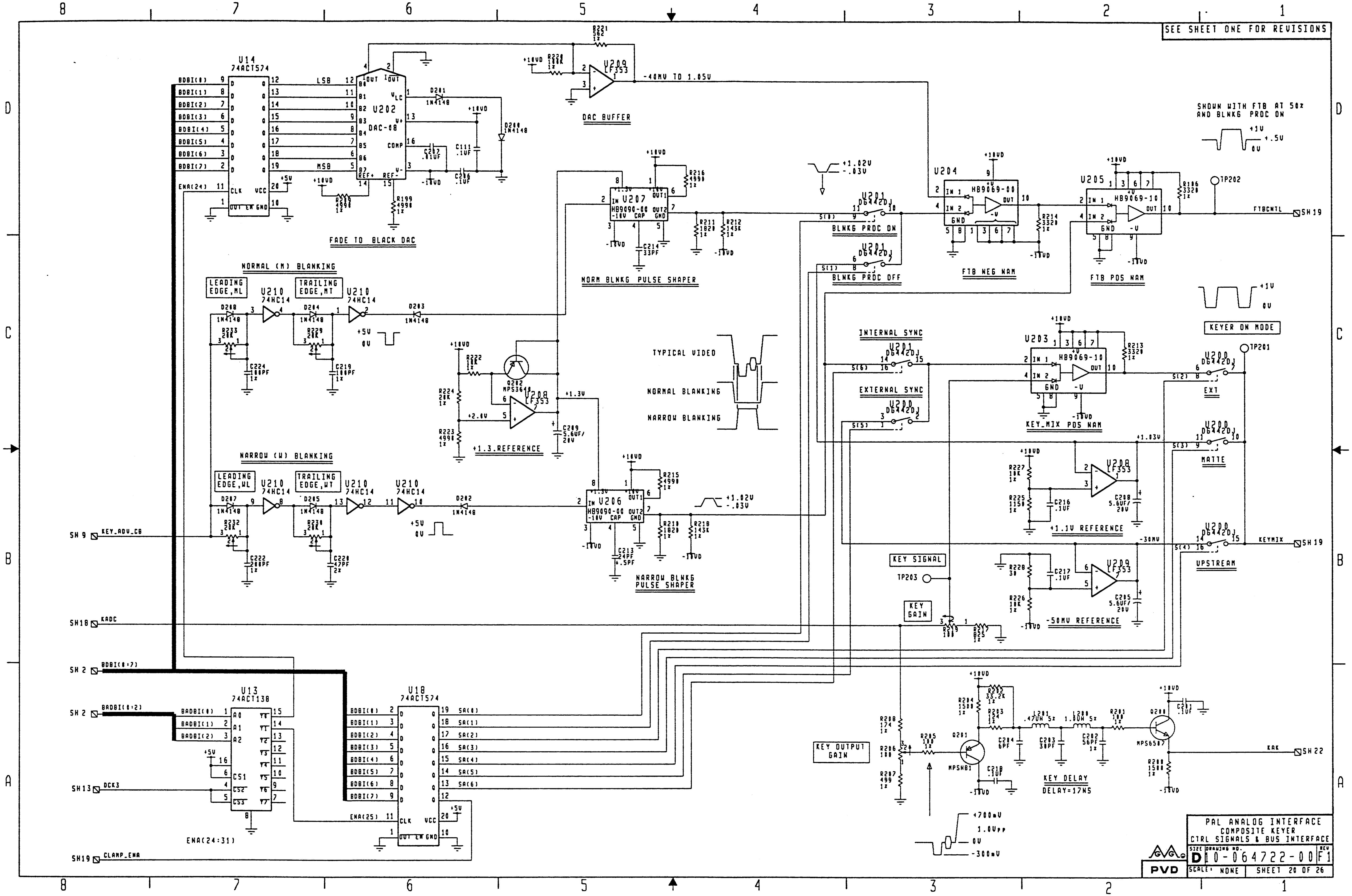
PAL ANALOG INTERFACE
COMPOSITE KEYER
EXT BKGD BUFFER & KEY MIXER

PVD

SIZE	DRAWING NO.	REV
D	10-064722-00	F1

SCALE: NONE
SHEET 19 OF 26

SEE SHEET ONE FOR REVISIONS


U14
74ACT574
BDBI(0)
BDBI(1)
BDBI(2)
BDBI(3)
BDBI(4)
BDBI(5)
BDBI(6)
BDBI(7)
ENA(24)
CLK
VCC
OUT EN GND
LSB
MSB
U202
DAC-08
IOUT
COMP
REF+
REF-
D201
1N4148
D200
1N4148
C207
.01UF
C111
.1UF
C206
.1UF
+10VD
-10VD
+5V
R195
4990
1%
R199
4990
1%
FADE TO BLACK DAC
R221
562
1%
R220
10K
1%
U209
LF353
DAC BUFFER
-40MV TO 1.05V
+10VD
R216
4990
1%
U207
HB9090-00
NORM BLNKG PULSE SHAPER
R211
1020
1%
R212
143K
1%
C214
33PF
+1.02V
-.03V
U201
DG442DJ
S(0)
BLNKG PROC ON
S(1)
BLNKG PROC OFF
U204
HB9069-00
FTB NEG NAM
R214
3320
1%
U205
HB9069-10
FTB POS NAM
R186
3320
1%
TP202
FTBCNTL
SH 19
SHOWN WITH FTB AT 50%
AND BLNKG PROC ON
+1V
+.5V
0V
NORMAL (N) BLANKING
LEADING EDGE,NL
TRAILING EDGE,NT
U210
74HC14
D208
1N4148
D204
1N4148
D203
1N4148
R233
20K
R229
20K
C224
100PF
1%
C219
100PF
1%
+5V
0V
R222
10K
1%
Q202
MPS3640
U208
LF353
R224
20K
1%
R223
4990
1%
+2.0V
+1.3V
C209
5.6UF/
20V
+1.3 REFERENCE
TYPICAL VIDEO
NORMAL BLANKING
NARROW BLANKING
INTERNAL SYNC
EXTERNAL SYNC
U200
DG442DJ
S(6)
S(5)
U203
HB9069-10
KEY_MIX POS NAM
R213
3320
1%
KEYER ON MODE
TP201
S(2)
EXT
S(3)
MATTE
+1.03V
R227
10K
1%
R225
1150
1%
C216
.1UF
C208
5.6UF/
20V
+1.1V REFERENCE
-30MV
S(4)
UPSTREAM
KEYMIX
SH 19
NARROW (W) BLANKING
LEADING EDGE,WL
TRAILING EDGE,WT
D207
1N4148
D205
1N4148
D202
1N4148
R232
20K
R230
20K
C222
200PF
1%
C220
47PF
2%
SH 9
KEY_ADV_CB
U206
HB9090-00
R215
4990
1%
R210
1020
1%
R218
143K
1%
C213
24PF
4.5PF
NARROW BLNKG PULSE SHAPER
KEY SIGNAL
TP203
R228
30
R226
10K
1%
C217
.1UF
C205
5.6UF/
20V
-50MV REFERENCE
KEY GAIN
R219
100
R217
825
1%
SH18
KADC
SH 2
BDBI(0:7)
BADBI(0:2)
U13
74ACT138
BADBI(0)
BADBI(1)
BADBI(2)
A0
A1
A2
CS1
CS2
CS3
SH13
DCK3
ENA(24:31)
U18
74ACT574
SA(0)
SA(1)
SA(2)
SA(3)
SA(4)
SA(5)
SA(6)
ENA(25)
SH19
CLAMP_ENA
R204
1500
1%
R212
33.2K
1%
R203
154
1%
R208
174
1%
R206
100
R207
499
1%
R205
100
1%
Q201
MPSH81
C204
6PF
C210
.1UF
L201
.47UH 5%
L200
1.80UH 5%
C203
39PF
C202
56PF
1%
R201
100
1%
Q200
MPS6507
C201
.1UF
R200
1500
1%
KAK
SH 22
KEY OUTPUT GAIN
KEY DELAY
DELAY=17NS
+700mV
1.0Vpp
0V
-300mV

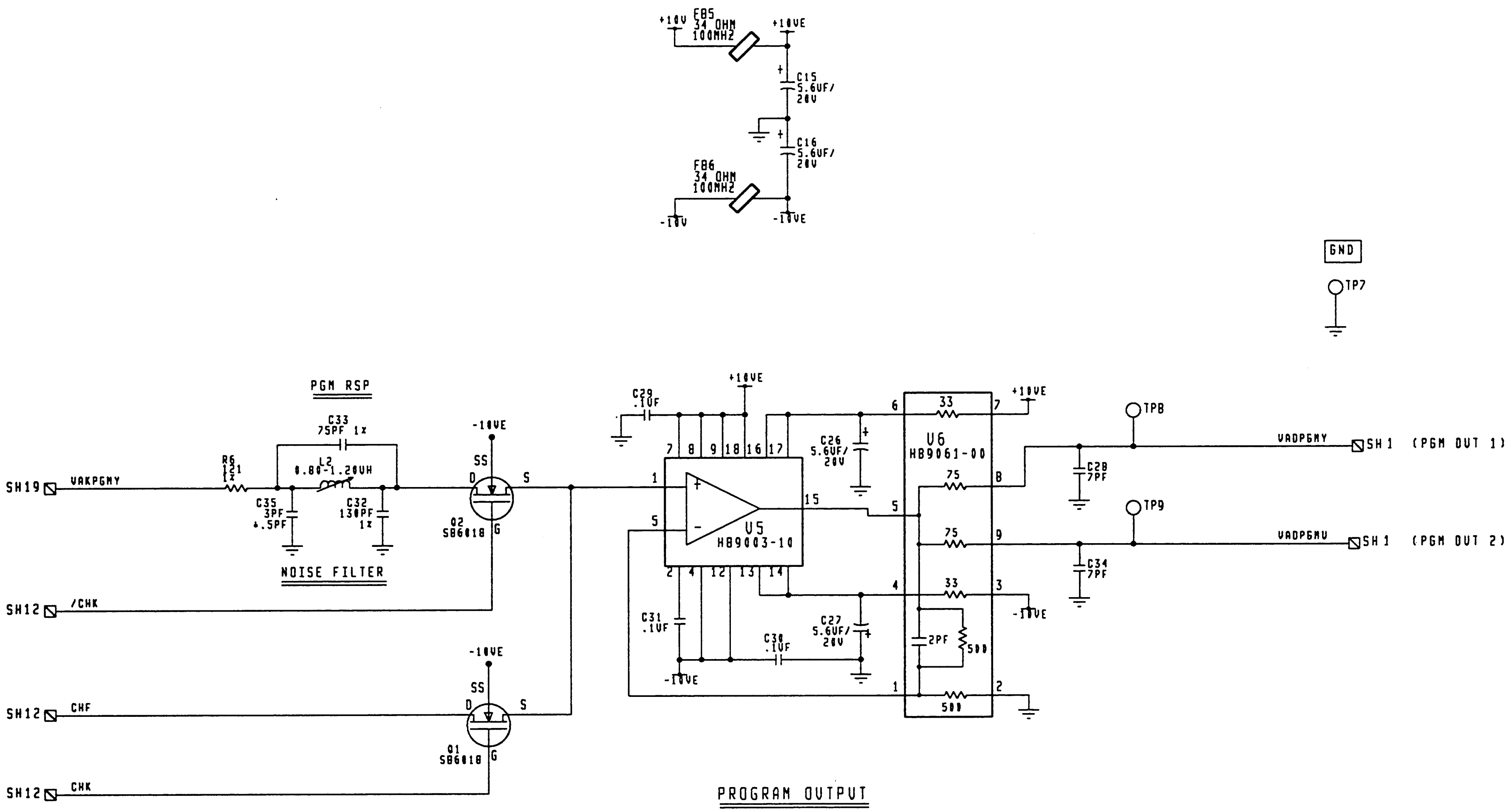
PAL ANALOG INTERFACE
COMPOSITE KEYER
CTRL SIGNALS & BUS INTERFACE

PVD

SIZE D DRAWING NO. 10-064722-00 REV F1

SCALE: NONE SHEET 20 OF 26

SEE SHEET ONE FOR REVISIONS


+10V
FB5
34 OHM
100MHZ
+10VE
C15
5.6UF/
20V
C16
5.6UF/
20V
FB6
34 OHM
100MHZ
-10V
-10VE
GND
TP7
PGM RSP
C33
75PF 1%
R6
121
1%
L2
0.80-1.20UH
C35
3PF
±.5PF
C32
130PF
1%
NOISE FILTER
SH19
VAKPGMY
-10VE
SS
D
S
G
Q2
SB6018
SH12
/CHK
SH12
CHF
Q1
SB6018
SH12
CHK
C29
.1UF
+10VE
7
8
9
18
16
17
1
5
15
2
4
12
13
14
U5
HB9003-10
C26
5.6UF/
20V
C31
.1UF
C30
.1UF
C27
5.6UF/
20V
-10VE
U6
HB9061-00
6
33
7
+10VE
75
8
5
75
9
4
33
3
-10VE
2PF
500
1
500
2
TP8
C28
7PF
VADPGMY
SH1 (PGM OUT 1)
TP9
C34
7PF
VADPGMU
SH1 (PGM OUT 2)
PROGRAM OUTPUT

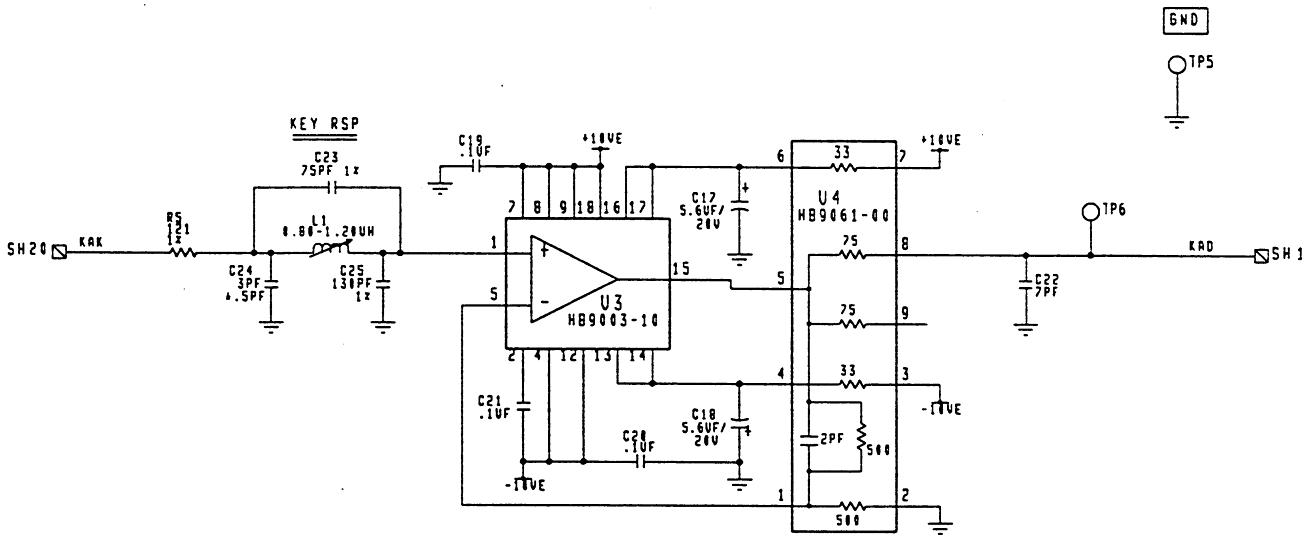
PAL ANALOG INTERFACE
COMPOSITE ANALOG OUTPUT
AND PROGRAM OUTPUTS

PVD

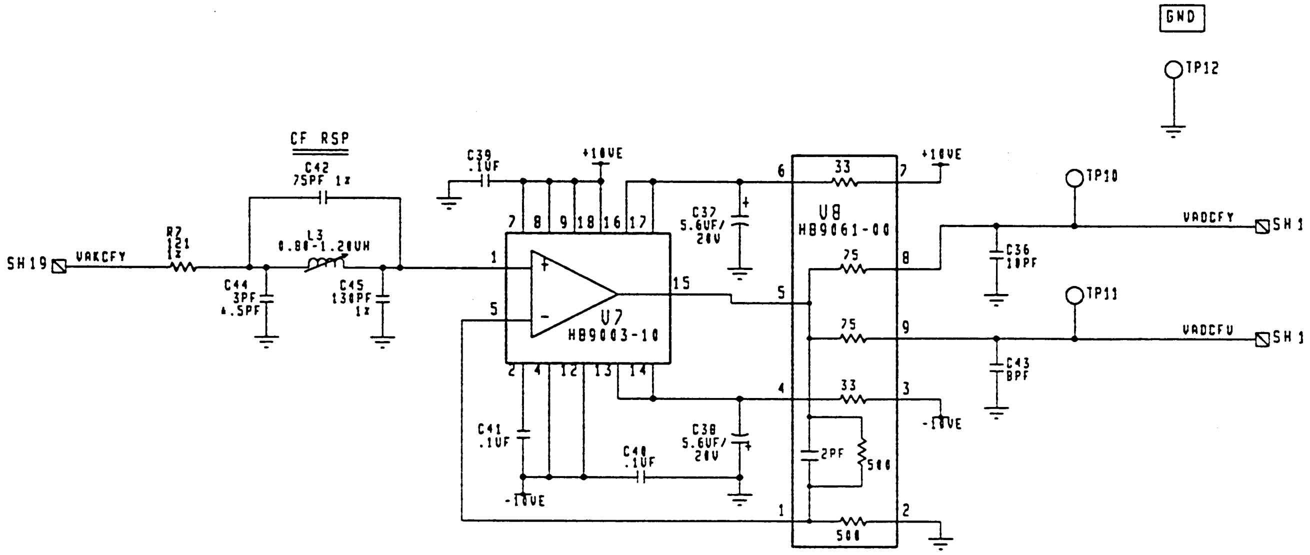
SIZE	DRAWING NO.	REV
D	10-064722-00	F1

SCALE: NONE | SHEET 21 OF 26

SEE SHEET ONE FOR REVISIONS


GND
TP5
KEY RSP
C23
75PF 1%
SH20
KAK
R5
121
1%
L1
0.80-1.20UH
C24
3PF
4.5PF
C25
130PF
1%
C19
.1UF
+10VE
7
8
9
18
16
17
1
5
15
U3
HB9003-10
2
4
12
13
14
C21
.1UF
C20
.1UF
-10VE
C17
5.6UF/
20V
C18
5.6UF/
20V
6
33
7
U4
HB9061-00
75
8
5
75
9
4
33
3
-10VE
2PF
500
1
500
2
TP6
C22
7PF
KAD
SH 1

KEY OUTPUT


GND
TP12
CF RSP
C42
75PF 1%
SH19
VAKCFY
R7
121
1%
L3
0.80-1.20UH
C44
3PF
4.5PF
C45
130PF
1%
C39
.1UF
+10VE
7
8
9
18
16
17
1
5
15
U7
HB9003-10
2
4
12
13
14
C41
.1UF
C40
.1UF
-10VE
C37
5.6UF/
20V
C38
5.6UF/
20V
6
33
7
U8
HB9061-00
75
8
5
75
9
4
33
3
-10VE
2PF
500
1
500
2
TP10
C36
10PF
VADCFY
SH 1
TP11
C43
8PF
VADCFU
SH 1

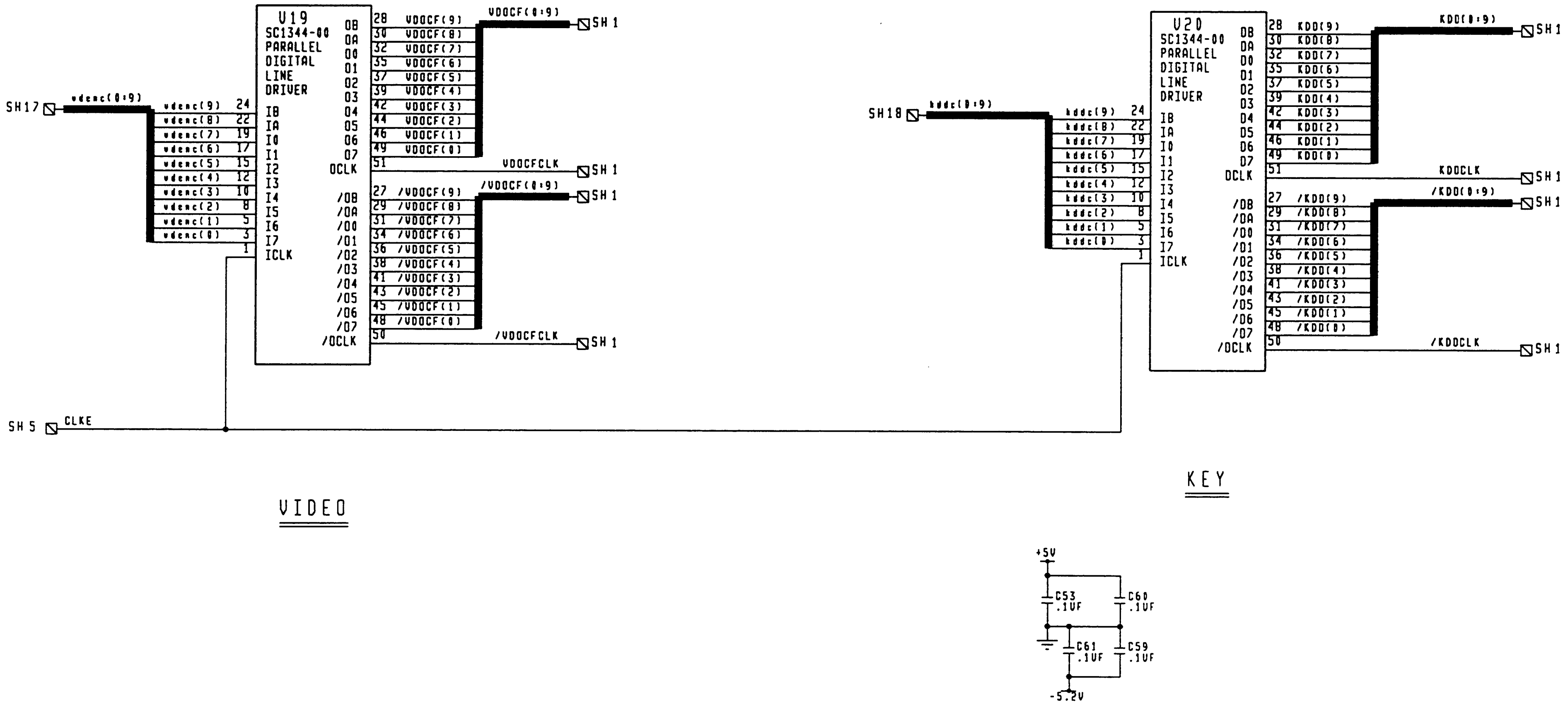
CLEANFEED OUTPUT

PAL ANALOG INTERFACE
CLEANFEED AND KEY
OUTPUTS

PVD

SIZE D
DRAWING NO. 10-064722-00
REV F1
SCALE: NONE
SHEET 22 OF 26

SEE SHEET ONE FOR REVISIONS

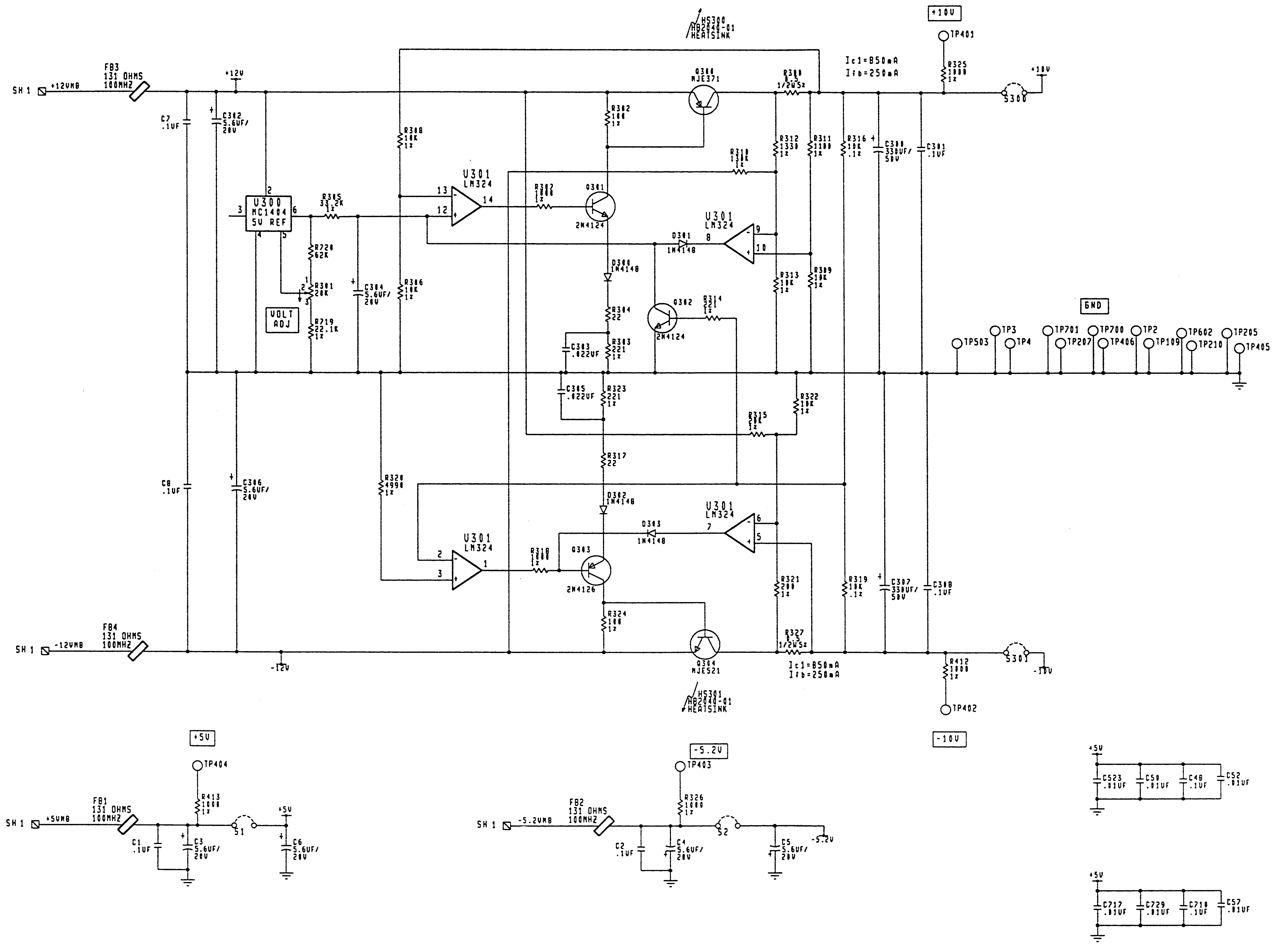

U19
SC1344-00
PARALLEL
DIGITAL
LINE
DRIVER
SH17
vdenc(0:9)
vdenc(9) 24 IB
vdenc(8) 22 IA
vdenc(7) 19 I0
vdenc(6) 17 I1
vdenc(5) 15 I2
vdenc(4) 12 I3
vdenc(3) 10 I4
vdenc(2) 8 I5
vdenc(1) 5 I6
vdenc(0) 3 I7
1 ICLK
0B 28 VDOCF(9)
0A 30 VDOCF(8)
00 32 VDOCF(7)
01 35 VDOCF(6)
02 37 VDOCF(5)
03 39 VDOCF(4)
04 42 VDOCF(3)
05 44 VDOCF(2)
06 46 VDOCF(1)
07 49 VDOCF(0)
VDOCF(0:9) SH 1
OCLK 51 VDOCFCLK SH 1
/0B 27 /VDOCF(9)
/0A 29 /VDOCF(8)
/00 31 /VDOCF(7)
/01 34 /VDOCF(6)
/02 36 /VDOCF(5)
/03 38 /VDOCF(4)
/04 41 /VDOCF(3)
/05 43 /VDOCF(2)
/06 45 /VDOCF(1)
/07 48 /VDOCF(0)
/VDOCF(0:9) SH 1
/OCLK 50 /VDOCFCLK SH 1
SH 5 CLKE
VIDEO
U20
SC1344-00
PARALLEL
DIGITAL
LINE
DRIVER
SH18
kddc(0:9)
kddc(9) 24 IB
kddc(8) 22 IA
kddc(7) 19 I0
kddc(6) 17 I1
kddc(5) 15 I2
kddc(4) 12 I3
kddc(3) 10 I4
kddc(2) 8 I5
kddc(1) 5 I6
kddc(0) 3 I7
1 ICLK
DB 28 KDD(9)
DA 30 KDD(8)
D0 32 KDD(7)
D1 35 KDD(6)
D2 37 KDD(5)
D3 39 KDD(4)
D4 42 KDD(3)
D5 44 KDD(2)
D6 46 KDD(1)
D7 49 KDD(0)
KDD(0:9) SH 1
DCLK 51 KDDCLK SH 1
/DB 27 /KDD(9)
/DA 29 /KDD(8)
/D0 31 /KDD(7)
/D1 34 /KDD(6)
/D2 36 /KDD(5)
/D3 38 /KDD(4)
/D4 41 /KDD(3)
/D5 43 /KDD(2)
/D6 45 /KDD(1)
/D7 48 /KDD(0)
/KDD(0:9) SH 1
/DCLK 50 /KDDCLK SH 1
KEY
+5V
C53 .1UF
C60 .1UF
C61 .1UF
C59 .1UF
-5.2V

PAL ANALOG INTERFACE
DIGITAL OUTPUTS

PVD

SIZE	DRAWING NO.	REV
D	10-064722-00	F1
SCALE: NONE	SHEET 23 OF 26	

SEE SHEET ONE FOR REVISIONS



SH 1 +12VMB
FB3 131 OHMS 100MHZ
+12V
C7 .1UF
C302 5.6UF/ 20V
U300 MC1404 5V REF
R305 33.2K
R720 62K
R301 20K
VOLT ADJ
R719 22.1K
C304 5.6UF/ 20V
R308 10K 1%
R306 10K 1%
U301 LM324
HS300 AB2040-01 HEATSINK
Q300 MJE371
R302 100 1%
R307 1000 1%
Q301 2N4124
R300 1/2W5%
Ic1=850mA
Ifb=250mA
R310 130K 1%
R312 1330 1%
R311 1100 1%
R316 10K .1%
C300 330UF/ 50V
C301 .1UF
+10V
TP401
R325 1000 1%
+10V
S300
D301 1N4148
D300 1N4148
Q302 2N4124
R314 221 1%
R313 10K 1%
R309 10K 1%
R304 22
C303 .022UF
R303 221 1%
GND
TP503
TP3
TP4
TP701
TP207
TP700
TP406
TP2
TP109
TP602
TP210
TP205
TP405
C305 .022UF
R323 221 1%
R322 10K 1%
R315 50K 1%
R317 22
C8 .1UF
C306 5.6UF/ 20V
R320 4990 1%
D302 1N4148
D303 1N4148
R318 1000 1%
Q303 2N4126
R321 200 1%
R319 10K .1%
C307 330UF/ 50V
C308 .1UF
R324 100 1%
SH 1 -12VMB
FB4 131 OHMS 100MHZ
-12V
Q304 MJE521
R327 1/2W5%
Ic1=850mA
Ifb=250mA
R412 1000 1%
S301
-10V
TP402
HS301 AB2040-01 HEATSINK
-10V
+5V
TP404
R413 1000 1%
SH 1 +5VMB
FB1 131 OHMS 100MHZ
C1 .1UF
C3 5.6UF/ 20V
S1
+5V
C6 5.6UF/ 20V
-5.2V
TP403
R326 1000 1%
SH 1 -5.2VMB
FB2 131 OHMS 100MHZ
C2 .1UF
C4 5.6UF/ 20V
S2
C5 5.6UF/ 20V
-5.2V
+5V
C523 .01UF
C50 .01UF
C48 .1UF
C52 .01UF
+5V
C717 .01UF
C729 .01UF
C718 .1UF
C57 .01UF

PAL ANALOG INTERFACE

VOLTAGE REGULATOR

SIZE	DRAWING NO.	REV
D	10-064722-00	F1
SCALE: NONE	SHEET 24 OF 26	

PVD

SEE SHEET 1 FOR REVISIONS

Net name to page:

+1.03V	20	+1.3V	20	+10V	2,3,4,5,6,7,12,17,19,21,24		
+10VA	17,18	+10VD	19,20	+10VE	21,22	+12V	24
+12VMB	1,24	+2.0V	20				
+5V	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,23,24					+5VMB	1,24
-10V	2,3,4,5,6,7,12,17,19,21,24			-10VA	17,18	-10VD	19,20
-10VE	21,22	-12V	24	-12VMB	1,24	-30MV	20
-5.2V	2,3,5,17,18,23,24			-5.2VMB	1,24	/BAS	1,13
/BDTACK0	1,13	/CHK	12,21	/KDO(0)	1,23	/KDO(1)	1,23
/KDO(2)	1,23	/KDO(3)	1,23	/KDO(4)	1,23	/KDO(5)	1,23
/KDO(6)	1,23	/KDO(7)	1,23	/KDO(8)	1,23	/KDO(9)	1,23
/KDOCLK	1,23	/RH/2	5,8	/VDI1A(0)	1,2	/VDI1A(1)	1,2
/VDI1A(2)	1,2	/VDI1A(3)	1,2	/VDI1A(4)	1,2	/VDI1A(5)	1,2
/VDI1A(6)	1,2	/VDI1A(7)	1,2	/VDI1ACLK	1,2	/VDI1B(0)	1,2
/VDI1B(1)	1,2	/VDI1B(2)	1,2	/VDI1B(3)	1,2	/VDI1B(4)	1,2
/VDI1B(5)	1,2	/VDI1B(6)	1,2	/VDI1B(7)	1,2	/VDI1BCLK	1,2
/VDI2A(0)	1,3	/VDI2A(1)	1,3	/VDI2A(2)	1,3	/VDI2A(3)	1,3
/VDI2A(4)	1,3	/VDI2A(5)	1,3	/VDI2A(6)	1,3	/VDI2A(7)	1,3
/VDI2ACLK	1,3	/VDI2B(0)	1,3	/VDI2B(1)	1,3	/VDI2B(2)	1,3
/VDI2B(3)	1,3	/VDI2B(4)	1,3	/VDI2B(5)	1,3	/VDI2B(6)	1,3
/VDI2B(7)	1,3	/VDI2BCLK	1,3	/VDIF1C(7)	1,13	/VDIF2C(7)	1,13
/VDOCF(0)	1,23	/VDOCF(1)	1,23	/VDOCF(2)	1,23	/VDOCF(3)	1,23
/VDOCF(4)	1,23	/VDOCF(5)	1,23	/VDOCF(6)	1,23	/VDOCF(7)	1,23
/VDOCF(8)	1,23	/VDOCF(9)	1,23	/VDOCFCLK	1,23	0nS	4
15nS	4	100_SC	5,7	270_SC	5,7	30nS	4
4.43A	5,16	4.43_DEC1	2,5	4.43_DEC2	3,5	4.43_ENC	5,15
45nS	4	8.86A	5,7,9	A1	5	A2	5
ADV_CB	9	BADBI(0)	2,3,4,13,20	BADBI(1)	2,3,4,13,20	BADBI(2)	2,3,4,13,20
BADD(0)	1,13	BADD(1)	1,13	BADD(15)	1,13	BADD(16)	1,13
BADD(2)	1,13	BADD(3)	1,13	BADD(4)	1,13	BADD(5)	1,13
BCLK	1,13	BD(10)	1,13	BD(11)	1,13	BD(12)	1,13
BD(13)	1,13	BD(14)	1,13	BD(15)	1,13	BD(8)	1,13
BD(9)	1,13	BDBI(0)	2,3,4,5,9,10,11,12,13,20				
BDBI(1)	2,3,4,5,9,10,11,12,13,20			BDBI(2)	2,3,4,5,9,10,11,12,13,20		
BDBI(3)	2,3,4,5,9,10,11,12,13,20			BDBI(4)	2,3,4,5,9,10,11,12,13,20		
BDBI(5)	2,3,4,5,9,10,11,12,13,20			BDBI(6)	2,3,4,5,9,10,11,12,13,20		
BDBI(7)	2,3,4,5,9,10,11,12,13,20			BG	9,16	BLKBST	4,5,6
BRD/WR	1,13	BST	16,18	BYPASS	4,9,15,18	CBSBA	5,16
CB	9,16	CBS(0)	15,16,18	CBS(1)	15,16,18	CBS(2)	15,16,18
CBS(3)	15,16,18	CBS(4)	15,16,18	CBS(5)	15,16,18	CBS(6)	15,16,18
CBS(7)	15,16,18	CBS(8)	15,16,18	CBS(9)	15,16	CH1_B1	4,5,10
CH1_B2	4,5,10	CH2_C1	4,5,11	CH2_C2	4,5,11	CHF	12,21
CHG_EN	5,12	CHK	12,21	CLAMP_ENA	19,20	CLK	5,14
CLKA	5,9	CLKB	1,5	CLKC	5,10	CLKD	5,11,12
CLKDCA	14,16	CLKDCB	14,15,16	CLKDCC	14,18	CLKDCD	14,18
CLKDCE	5,14,17	CLKDCF	9,14,15	CLKE	5,23	CLKF	5,12
CLKG	3,5	CLKH	2,5	CLKI	5,7,9	CLKIFIN	14,15,18
CP1A	2,10	CP1ADC	2,10	CP2A	3,11	CP2ADC	3,11
CPDAC	9,18	CS	9,12,16	CSI	6,8	DCK3	13,20
ENA(0)	4	ENA(1)	4	ENA(2)	4,9	ENA(24)	20
ENA(25)	20	ENA(3)	4,9	ENA(32)	4,12	ENA(33)	4,12
ENA(34)	4,12	ENA(35)	4,9	ENA(36)	4	ENA(37)	4
ENA(4)	4,10	ENA(5)	4,11	ENA(6)	4,5,9	ENA(7)	4,5
END/	16	ENV(0)	16	ENV(1)	16	ENV(2)	16
ENV(3)	16	ENV(4)	16	ENV(5)	16	ENV(6)	16
ENV(7)	16	ENV(8)	16	F1IN1	9,10	F1IN2	9,11
F1OUT	5,9	F2IN1	9,10	F2IN2	9,11	F2OUT	9
F3OUT	9	FC(0)	14,15	FC(1)	14,15	FC(2)	14,15
FC(3)	14,15	FC(4)	14,15	FC(5)	14,15	FC(6)	14,15
FC(7)	14,15	FC(8)	14,15	FC(9)	14,15	FID	1,10
FIDO	9,10	FINE(0)	4,5	FINE(1)	4,5	FTBCNTL	19,20
GND	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25					H	4,9,12,16
H/2	9,16	H/2W	5,8	H_TRIG	12	IH1	1,10
IH2	1,11	ISE1	2,13	ISE2	3,13	IV1	1,10
IV2	1,11	JM(0)	15	JM(1)	15	JM(2)	15
JM(3)	15	JM(4)	15	JM(5)	15	JM(6)	15
JM(7)	15	JM(8)	15	JM(9)	15	KADC	10,20
KAK	20,22	KAD	1,22	KD(0)	4,18	KD(1)	4,18
KD(2)	4,18	KDA(0)	18	KDA(1)	18	KDA(2)	18
KDA(3)	18	KDA(4)	18	KDA(5)	18	KDA(6)	18
KDA(7)	18	KDA(8)	18	KDA(9)	18	KDDC(0)	18
KDDC(1)	18	KDDC(2)	18	KDDC(3)	18	KDDC(4)	18
KDDC(5)	18	KDDC(6)	18	KDDC(7)	18	KDDC(8)	18
KDDC(9)	18	KDO(0)	1,23	KDO(1)	1,23	KDO(2)	1,23
KDO(3)	1,23	KDO(4)	1,23	KDO(5)	1,23	KDO(6)	1,23
KDO(7)	1,23	KDO(8)	1,23	KDO(9)	1,23	KDOCLK	1,23
KDOP(0)	1,18	KDOP(1)	1,18	KDOP(2)	1,18	KDOP(3)	1,18
KDOP(4)	1,18	KDOP(5)	1,18	KDOP(6)	1,18	KDOP(7)	1,18
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LD(3)	4,15	LD(4)	4,15	LINE(0)	16	LINE(1)	16
LINE(2)	16	LINE(3)	16	LINE(4)	16	LINE(5)	16
LINE(6)	16	LINE(7)	16	LOUT1	9	LOUT2	9
MC(0)	15	MC(1)	15	MC(2)	15	MC(3)	15
MC(4)	15	MC(5)	15	MC(6)	15	MC(7)	15
MC(8)	15	MC(9)	15	MCPDAC	17,18	OH	1,9
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VDENC(4)	15	VDENC(5)	15	VDENC(6)	15	VDENC(7)	15
VDENC(8)	15	VDENC(9)	15	VDI1A(0)	1,2	VDI1A(1)	1,2
VDI1A(2)	1,2	VDI1A(3)	1,2	VDI1A(4)	1,2	VDI1A(5)	1,2
VDI1A(6)	1,2	VDI1A(7)	1,2	VDI1ACLK	1,2	VDI1B(0)	1,2
VDI1B(1)	1,2	VDI1B(2)	1,2	VDI1B(3)	1,2	VDI1B(4)	1,2
VDI1B(5)	1,2	VDI1B(6)	1,2	VDI1B(7)	1,2	VDI1BCLK	1,2
VDI2A(0)	1,3	VDI2A(1)	1,3	VDI2A(2)	1,3	VDI2A(3)	1,3
VDI2A(4)	1,3	VDI2A(5)	1,3	VDI2A(6)	1,3	VDI2A(7)	1,3
VDI2ACLK	1,3	VDI2B(0)	1,3	VDI2B(1)	1,3	VDI2B(2)	1,3
VDI2B(3)	1,3	VDI2B(4)	1,3	VDI2B(5)	1,3	VDI2B(6)	1,3
VDI2B(7)	1,3	VDI2BCLK	1,3	VDIF1C(0)	1,2	VDIF1C(1)	1,2
VDIF1C(2)	1,2	VDIF1C(3)	1,2	VDIF1C(4)	1,2	VDIF1C(5)	1,2
VDIF1C(6)	1,2	VDIF1C(7)	1,2,13	VDIF1L(0)	1,2	VDIF1L(1)	1,2
VDIF1L(2)	1,2	VDIF1L(3)	1,2	VDIF1L(4)	1,2	VDIF1L(5)	1,2
VDIF1L(6)	1,2	VDIF1L(7)	1,2	VDIF2C(0)	1,3	VDIF2C(1)	1,3
VDIF2C(2)	1,3	VDIF2C(3)	1,3	VDIF2C(4)	1,3	VDIF2C(5)	1,3
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VDIF2L(6)	1,3	VDIF2L(7)	1,3	VDOCF(0)	1,23	VDOCF(1)	1,23
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U707	15	U708	9	U709	15	U710	18	U711	18	U712	14	U713	15
U714	15	U715	15	U716	15	U717	18	U718	14	U719	16	U720	16
U721	16	U722	16	U723	16	U724	16	U725	16	U726	16	U727	16
U734	15	Y501	5										

Grass Valley Group

SCHEMATIC DIAGRAM
PAL ANALOG INTERFACE
REFERENCE DESIG. CROSS REF.

SIZE D
DRAWING NO. 10-064722-00 F1
SCALE: NONE
SHEET 26 OF 26

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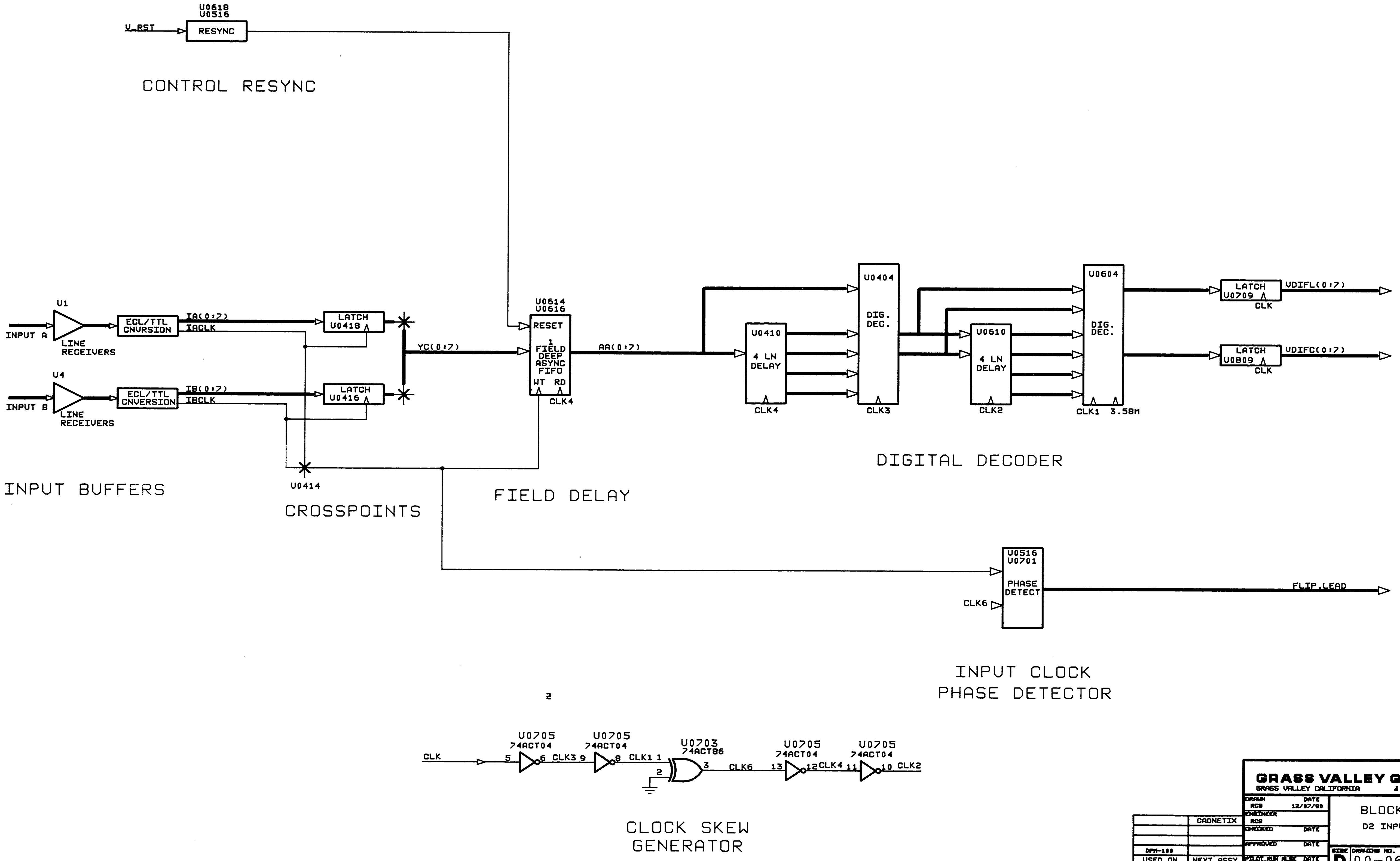
REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
A1	2096	EV	11-90	——	——		——
PILOT RUN RELEASE							
B1	2148	PLUM	1-91	——			——
BOM CHANGES ONLY							


V_RST
U0618
U0516
RESYNC
CONTROL RESYNC
INPUT A
U1
LINE RECEIVERS
ECL/TTL CNVRSION
IA(0:7)
IACLK
LATCH U0418
INPUT B
U4
LINE RECEIVERS
ECL/TTL CNVERSION
IB(0:7)
IBCLK
LATCH U0416
YC(0:7)
U0414
INPUT BUFFERS
CROSSPOINTS
U0614
U0616
RESET
1 FIELD DEEP ASYNC FIFO
WT
RD
CLK4
AA(0:7)
FIELD DELAY
U0410
4 LN DELAY
CLK4
U0404
DIG. DEC.
CLK3
U0610
4 LN DELAY
CLK2
U0604
DIG. DEC.
CLK1
3.58M
DIGITAL DECODER
LATCH U0709
CLK
VDIFL(0:7)
LATCH U0809
CLK
VDIFC(0:7)
U0516
U0701
PHASE DETECT
CLK6
FLIP.LEAD
INPUT CLOCK PHASE DETECTOR
2
CLK
U0705 74ACT04
5
6
CLK3
9
U0705 74ACT04
8
CLK1
1
2
U0703 74ACT86
3
CLK6
13
U0705 74ACT04
12
CLK4
11
U0705 74ACT04
10
CLK2
CLOCK SKEW GENERATOR

GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA
A TEKTRONIX COMPANY

	CADNETIX
DPM-100	
USED ON	NEXT ASSY
APPLICATION	
DISTRIBUTION	

DRAWN RCB DATE 12/07/90
ENGINEER RCB
CHECKED DATE
APPROVED DATE
PILOT RUN RLSE RB DATE 6-91
ENGRG RLSE DATE

BLOCK DIAGRAM
D2 INPUT SUBMODULE

SIZE D
DRAWING NO. 00-064726-00
REV B1
SCALE: NONE
SHEET 1 OF 1

SIZE B DWG NO. 07-064726-00 REV B1 SH 1

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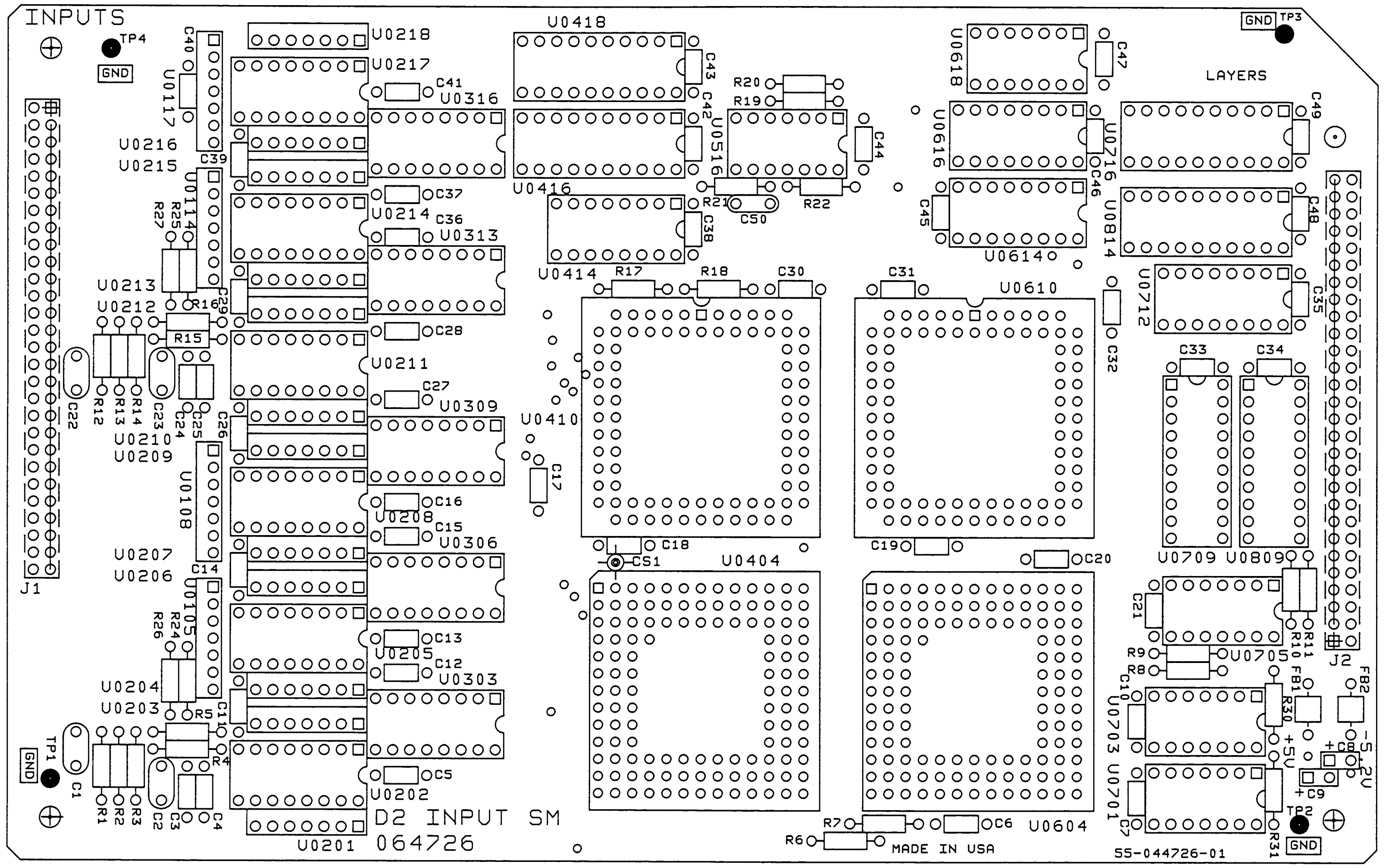
REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
A1	Z096	EV	11-90	——			——
PILOT RUN RELEASE							
B1	Z148	PLUM	1-90	——			——
UPDATED TO SHOW PADS.							


INPUTS
TP4
GND
TP3
GND
LAYERS
J1
J2
U0218
U0217
U0316
U0117
U0216
U0215
U0114
U0214
U0313
U0213
U0212
U0211
U0210
U0209
U0309
U0108
U0208
U0306
U0207
U0206
U0105
U0205
U0303
U0204
U0203
U0202
U0201
U0418
U0416
U0414
U0516
U0410
U0404
U0618
U0616
U0614
U0610
U0604
U0716
U0814
U0712
U0709
U0809
U0705
U0703
U0701
C1
C2
C3
C4
C5
C6
C7
C8
C9
C10
C11
C12
C13
C14
C15
C16
C17
C18
C19
C20
C21
C22
C23
C24
C25
C26
C27
C28
C29
C30
C31
C32
C33
C34
C35
C36
C37
C38
C39
C40
C41
C42
C43
C44
C45
C46
C47
C48
C49
C50
CS1
R1
R2
R3
R4
R5
R6
R7
R8
R9
R10
R11
R12
R13
R14
R15
R16
R17
R18
R19
R20
R21
R22
R24
R25
R26
R27
R30
R31
FB1
FB2
TP1
GND
TP2
GND
+5V
-5.2V
D2 INPUT SM
064726
MADE IN USA
55-044726-01

NOTES:

1. SCHEMATIC REFERENCE: D10-064726-00.
2. DARKENED COMPONENTS INDICATE TEST POINTS AND ADJUSTABLE COMPONENTS.
3. REFER TO SCHEMATIC FOR EDGE CONNECTOR PIN OUT INFORMATION.

	CADNETIX
DPM-100	
USED ON	NEXT ASSY
APPLICATION	
DISTRIBUTION	

GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA *A TEKTRONIX COMPANY*

DRAWN RSB	DATE 10/08/90	COMPONENT LOCATION D2 INPUT SUBMODULE
ENGINEER RB		
CHECKED	DATE	
APPROVED RB	DATE 10/08/90	SIZE B DRAWING NO. 07/08-064726-00 B1
PILOT RUN RLSE RB	DATE 6-19-91	
ENGRG RLSE	DATE	SCALE: NONE SHEET 1 OF 1

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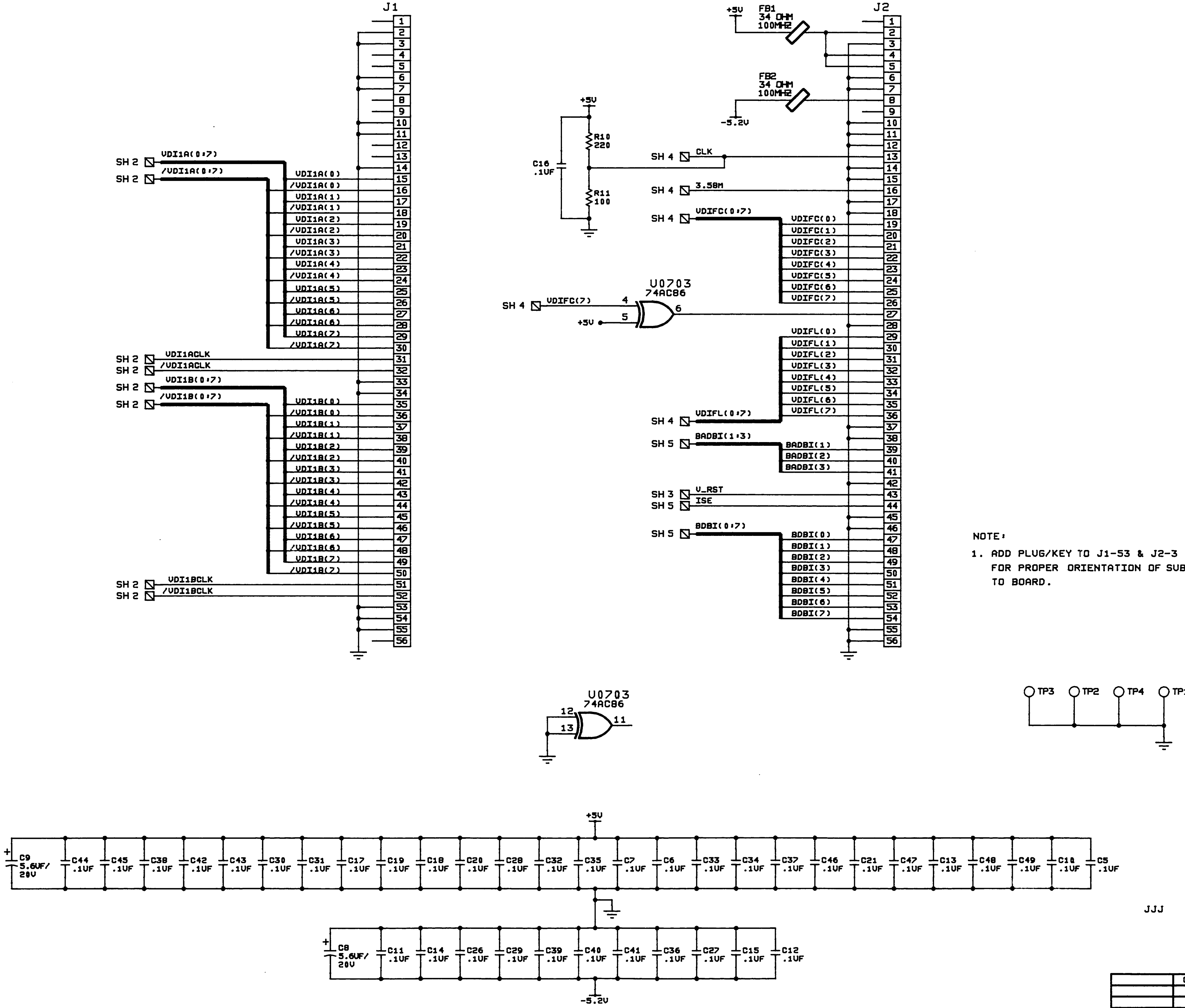
REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
A1	2096	EV	11-90	——	——		——
PILOT RUN RELEASE							
B1	2148	PLUM	1-91	——			——
BOM CHANGES,ADDED NOTE 1.							


J1
J2
SH 2 VDI1A(0:7)
SH 2 /VDI1A(0:7)
VDI1A(0) /VDI1A(0) VDI1A(1) /VDI1A(1) VDI1A(2) /VDI1A(2) VDI1A(3) /VDI1A(3) VDI1A(4) /VDI1A(4) VDI1A(5) /VDI1A(5) VDI1A(6) /VDI1A(6) VDI1A(7) /VDI1A(7)
SH 2 VDI1ACLK
SH 2 /VDI1ACLK
SH 2 VDI1B(0:7)
SH 2 /VDI1B(0:7)
VDI1B(0) /VDI1B(0) VDI1B(1) /VDI1B(1) VDI1B(2) /VDI1B(2) VDI1B(3) /VDI1B(3) VDI1B(4) /VDI1B(4) VDI1B(5) /VDI1B(5) VDI1B(6) /VDI1B(6) VDI1B(7) /VDI1B(7)
SH 2 VDI1BCLK
SH 2 /VDI1BCLK
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56
+5V
FB1 34 OHM 100MHZ
FB2 34 OHM 100MHZ
-5.2V
R10 220
R11 100
C16 .1UF
SH 4 CLK
SH 4 3.58M
SH 4 VDIFC(0:7)
VDIFC(0) VDIFC(1) VDIFC(2) VDIFC(3) VDIFC(4) VDIFC(5) VDIFC(6) VDIFC(7)
U0703 74AC86
SH 4 VDIFC(7) 4
+5V 5
6
VDIFL(0) VDIFL(1) VDIFL(2) VDIFL(3) VDIFL(4) VDIFL(5) VDIFL(6) VDIFL(7)
SH 4 VDIFL(0:7)
SH 5 BADBI(1:3)
BADBI(1) BADBI(2) BADBI(3)
SH 3 V_RST
SH 5 ISE
SH 5 BDBI(0:7)
BDBI(0) BDBI(1) BDBI(2) BDBI(3) BDBI(4) BDBI(5) BDBI(6) BDBI(7)
U0703 74AC86
12 13 11
TP3 TP2 TP4 TP1
+5V
C9 5.6UF/ 20V
C44 .1UF C45 .1UF C38 .1UF C42 .1UF C43 .1UF C30 .1UF C31 .1UF C17 .1UF C19 .1UF C18 .1UF C20 .1UF C28 .1UF C32 .1UF C35 .1UF C7 .1UF C6 .1UF C33 .1UF C34 .1UF C37 .1UF C46 .1UF C21 .1UF C47 .1UF C13 .1UF C48 .1UF C49 .1UF C10 .1UF C5 .1UF
C8 5.6UF/ 20V
C11 .1UF C14 .1UF C26 .1UF C29 .1UF C39 .1UF C40 .1UF C41 .1UF C36 .1UF C27 .1UF C15 .1UF C12 .1UF
-5.2V

NOTE:

1. ADD PLUG/KEY TO J1-53 & J2-3 FOR PROPER ORIENTATION OF SUBMODULE TO BOARD.

JJJ

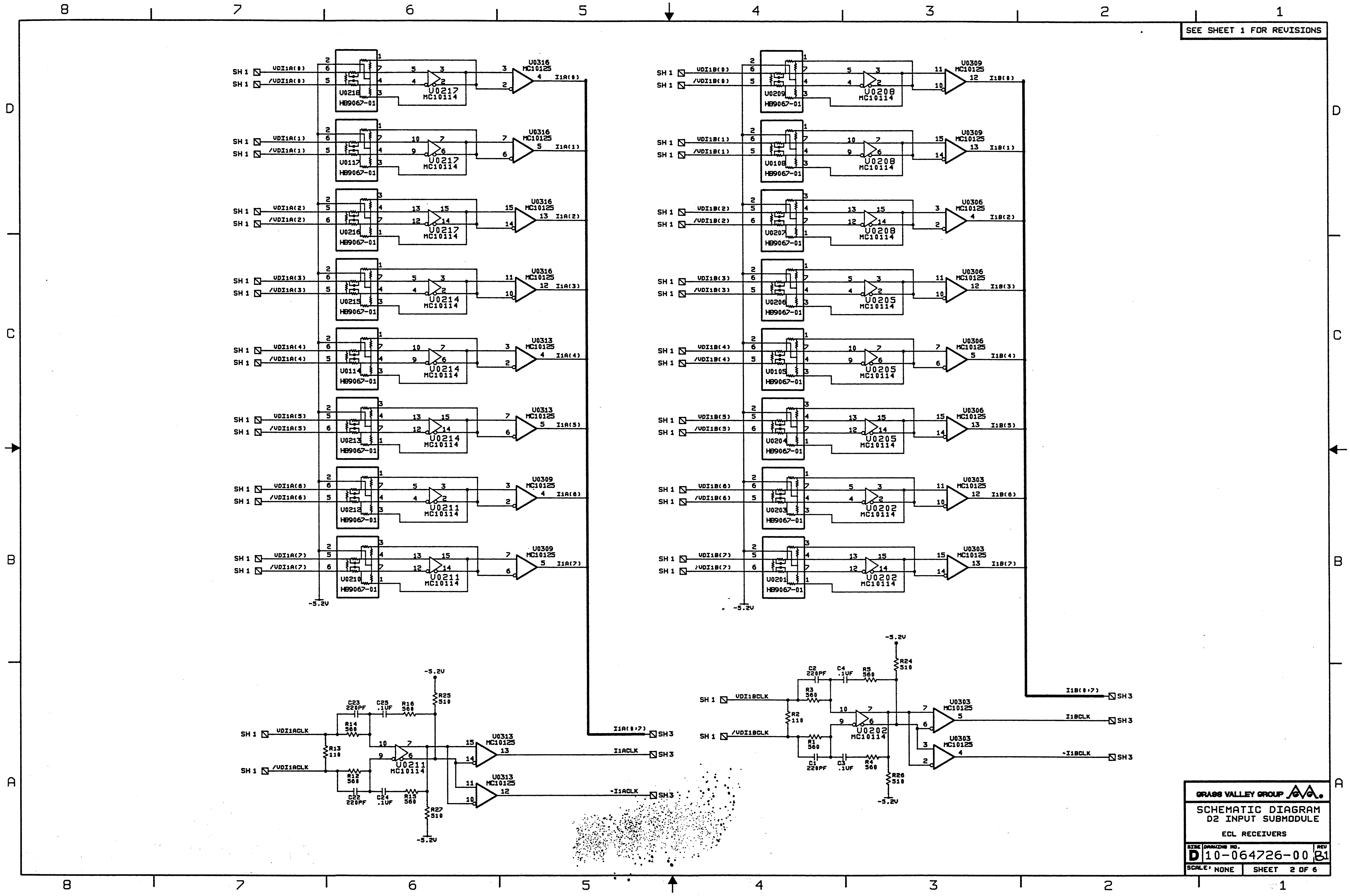
GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA
A TEKTRONIX COMPANY

	CADNETIX	DRAWN RCB	DATE 12/09/90
		ENGINEER RCB	
		CHECKED	DATE
DPM-100		APPROVED	DATE
USED ON	NEXT ASSY	PILOT RUN RLSE RB	DATE 6-91
APPLICATION		ENGRG RLSE	DATE
DISTRIBUTION			

SCHEMATIC DIAGRAM
D2 INPUT SUBMODULE
DECODER

SIZE D
DRAWING NO. 10-064726-00
REV B1
SCALE: NONE
SHEET 1 OF 6

SEE SHEET 1 FOR REVISIONS



8
7
6
5
4
3
2
1
D
C
B
A
SH 1
VDI1A(0)
/VDI1A(0)
VDI1A(1)
/VDI1A(1)
VDI1A(2)
/VDI1A(2)
VDI1A(3)
/VDI1A(3)
VDI1A(4)
/VDI1A(4)
VDI1A(5)
/VDI1A(5)
VDI1A(6)
/VDI1A(6)
VDI1A(7)
/VDI1A(7)
U0218
U0117
U0216
U0215
U0114
U0213
U0212
U0210
HB9067-01
U0217
U0214
U0211
MC10114
U0316
U0313
U0309
MC10125
I1A(0)
I1A(1)
I1A(2)
I1A(3)
I1A(4)
I1A(5)
I1A(6)
I1A(7)
-5.2V
VDI1B(0)
/VDI1B(0)
VDI1B(1)
/VDI1B(1)
VDI1B(2)
/VDI1B(2)
VDI1B(3)
/VDI1B(3)
VDI1B(4)
/VDI1B(4)
VDI1B(5)
/VDI1B(5)
VDI1B(6)
/VDI1B(6)
VDI1B(7)
/VDI1B(7)
U0209
U0108
U0207
U0206
U0105
U0204
U0203
U0201
U0208
U0205
U0202
U0309
U0306
U0303
I1B(0)
I1B(1)
I1B(2)
I1B(3)
I1B(4)
I1B(5)
I1B(6)
I1B(7)
VDI1ACLK
/VDI1ACLK
C23 220PF
C25 .1UF
R16 560
R25 510
R14 560
R13 110
R12 560
C22 220PF
C24 .1UF
R15 560
R27 510
U0211 MC10114
U0313 MC10125
I1A(0:7)
SH3
I1ACLK
-I1ACLK
VDI1BCLK
/VDI1BCLK
C2 220PF
C4 .1UF
R5 560
R24 510
R3 560
R2 110
R1 560
C1 220PF
C3 .1UF
R4 560
R26 510
U0202 MC10114
U0303 MC10125
I1B(0:7)
I1BCLK
-I1BCLK

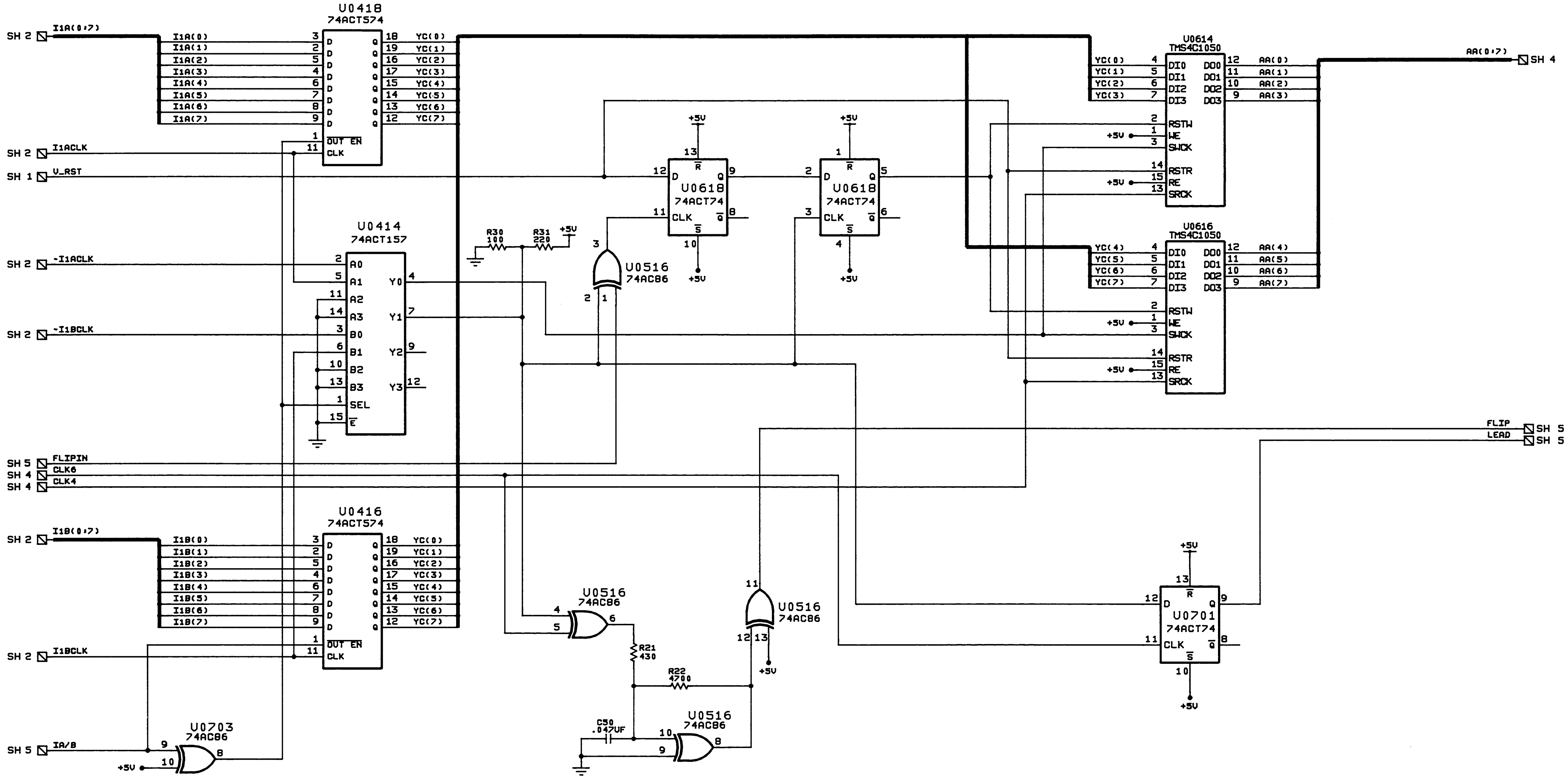
GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
D2 INPUT SUBMODULE

ECL RECEIVERS

SIZE	DRAWING NO.	REV
D	10-064726-00	B1
SCALE: NONE	SHEET 2 OF 6	

SEE SHEET 1 FOR REVISIONS


SH 2 I1A(0:7)
U0418
74ACT574
I1A(0)
I1A(1)
I1A(2)
I1A(3)
I1A(4)
I1A(5)
I1A(6)
I1A(7)
YC(0)
YC(1)
YC(2)
YC(3)
YC(4)
YC(5)
YC(6)
YC(7)
OUT EN
CLK
SH 2 I1ACLK
SH 1 V_RST
U0414
74ACT157
SH 2 ~I1ACLK
SH 2 ~I1BCLK
A0
A1
A2
A3
B0
B1
B2
B3
SEL
E
Y0
Y1
Y2
Y3
R30
100
R31
220
+5V
U0516
74AC86
U0618
74ACT74
D
Q
CLK
R
S
U0614
TMS4C1050
U0616
TMS4C1050
DI0
DI1
DI2
DI3
DO0
DO1
DO2
DO3
RSTW
WE
SWCK
RSTR
RE
SRCK
AA(0)
AA(1)
AA(2)
AA(3)
AA(4)
AA(5)
AA(6)
AA(7)
AA(0:7) SH 4
FLIP SH 5
LEAD SH 5
SH 5 FLIPIN
SH 4 CLK6
SH 4 CLK4
SH 2 I1B(0:7)
U0416
74ACT574
I1B(0)
I1B(1)
I1B(2)
I1B(3)
I1B(4)
I1B(5)
I1B(6)
I1B(7)
SH 2 I1BCLK
R21
430
R22
4700
C50
.047UF
U0701
74ACT74
U0703
74AC86
SH 5 IA/B
+5V

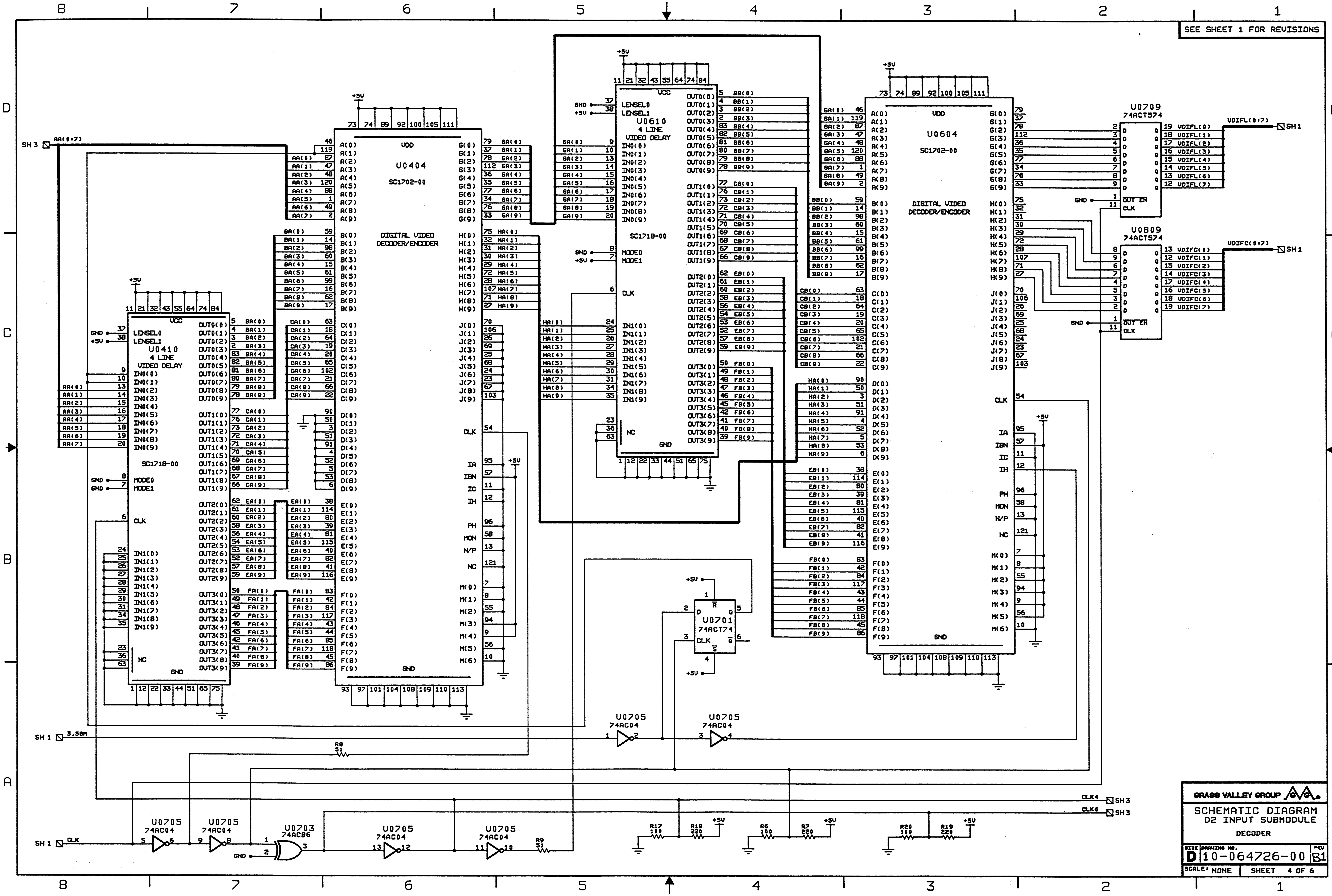
GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
D2 INPUT SUBMODULE

A/B SELECT DECODING

SIZE	DRAWING NO.	REV
D	10-064726-00	B1

SCALE: NONE	SHEET 3 OF 6


SEE SHEET 1 FOR REVISIONS
U0410
4 LINE VIDEO DELAY
SC1718-00
U0404
SC1702-00
DIGITAL VIDEO DECODER/ENCODER
U0610
4 LINE VIDEO DELAY
SC1718-00
U0604
SC1702-00
DIGITAL VIDEO DECODER/ENCODER
U0709
74ACT574
U0809
74ACT574
U0701
74ACT74
U0705
74AC04
U0703
74AC86
SH 3
AA(0:7)
SH 1
3.58M
SH 1
CLK
VDIFL(0:7)
VDIFC(0:7)
CLK4
CLK6
SH 3
+5V
GND
R8 51
R9 51
R17 100
R18 220
R6 100
R7 220
R20 100
R19 220
VCC
VDD
LENSEL0
LENSEL1
MODE0
MODE1
CLK
NC
OUT EN
IA
IBN
IC
IH
PH
MON
N/P

GRASS VALLEY GROUP

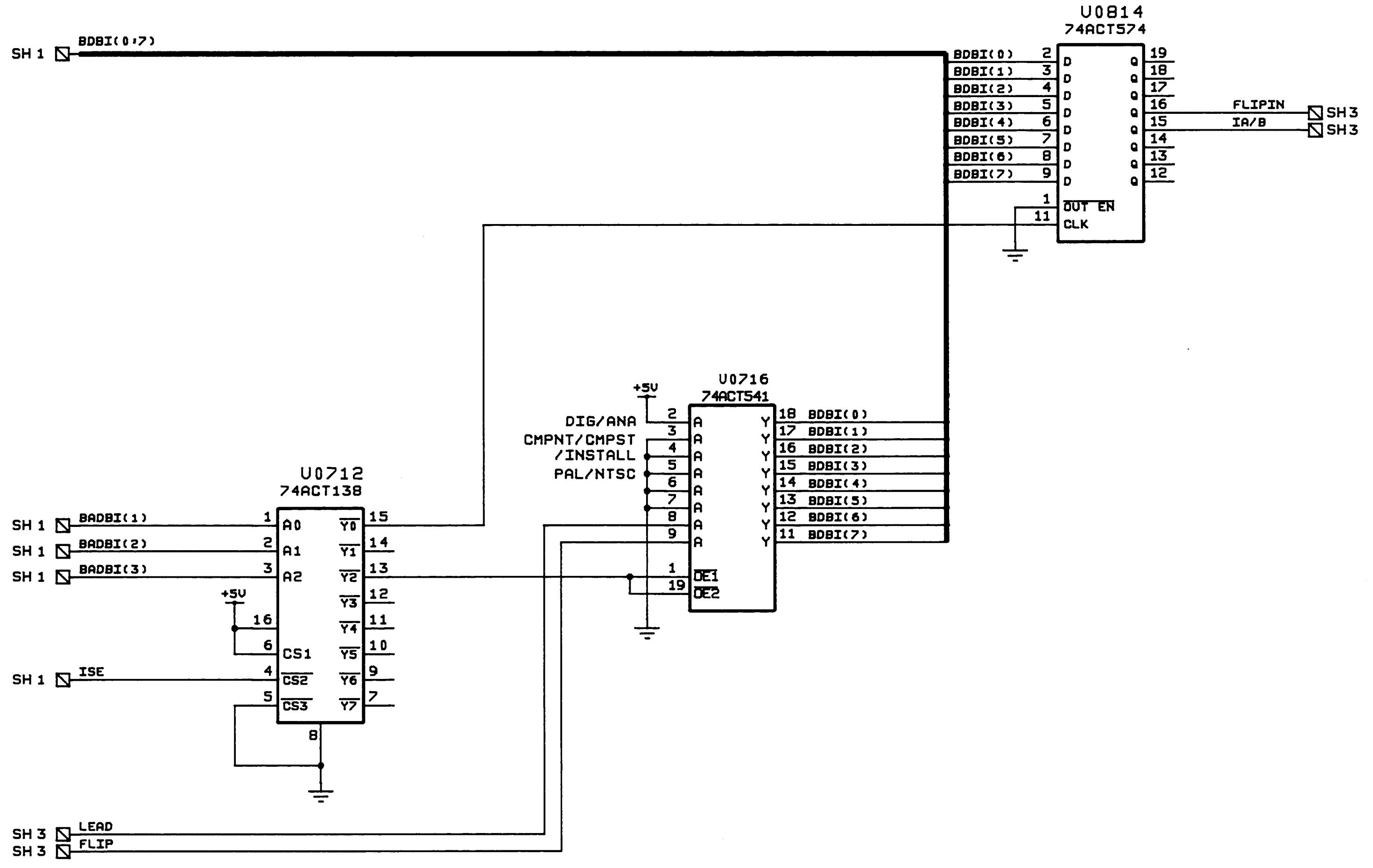
SCHEMATIC DIAGRAM
D2 INPUT SUBMODULE

DECODER

SIZE	DRAWING NO.	REV
D	10-064726-00	B1

SCALE: NONE SHEET 4 OF 6

SEE SHEET 1 FOR REVISIONS


U0814
74ACT574
SH 1
BDBI(0:7)
BDBI(0)
BDBI(1)
BDBI(2)
BDBI(3)
BDBI(4)
BDBI(5)
BDBI(6)
BDBI(7)
D
Q
OUT EN
CLK
FLIPIN
IA/B
SH3
SH3
U0716
74ACT541
+5V
DIG/ANA
CMPNT/CMPST
/INSTALL
PAL/NTSC
A
Y
OE1
OE2
U0712
74ACT138
SH 1
BADBI(1)
BADBI(2)
BADBI(3)
A0
A1
A2
+5V
CS1
CS2
CS3
ISE
Y0
Y1
Y2
Y3
Y4
Y5
Y6
Y7
SH 3
LEAD
FLIP

GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
D2 INPUT SUBMODULE

BUS INTERFACE

SIZE	DRAWING NO.	REV
D	10-064726-00	B1

SCALE: NONE SHEET 5 OF 6

SEE SHEET ONE FOR REVISIONS

SIGNAL NAME	PAGE	SIGNAL NAME	PAGE	SIGNAL NAME	PAGE	SIGNAL NAME	PAGE
+5V	1,3,4,5	-5.2V	1,2	/VDI1A(0)	1,2	/VDI1A(1)	1,2
/VDI1A(2)	1,2	/VDI1A(3)	1,2	/VDI1A(4)	1,2	/VDI1A(5)	1,2
/VDI1A(6)	1,2	/VDI1A(7)	1,2	/VDI1ACLK	1,2	/VDI1B(0)	1,2
/VDI1B(1)	1,2	/VDI1B(2)	1,2	/VDI1B(3)	1,2	/VDI1B(4)	1,2
/VDI1B(5)	1,2	/VDI1B(6)	1,2	/VDI1B(7)	1,2	/VDI1BCLK	1,2
3.58M	1,4	AA(0)	3,4	AA(1)	3,4	AA(2)	3,4
AA(3)	3,4	AA(4)	3,4	AA(5)	3,4	AA(6)	3,4
AA(7)	3,4	BA(0)	4	BA(1)	4	BA(2)	4
BA(3)	4	BA(4)	4	BA(5)	4	BA(6)	4
BA(7)	4	BA(8)	4	BA(9)	4	BADBI(1)	1,5
BADBI(2)	1,5	BADBI(3)	1,5	BB(0)	4	BB(1)	4
BB(2)	4	BB(3)	4	BB(4)	4	BB(5)	4
BB(6)	4	BB(7)	4	BB(8)	4	BB(9)	4
BDBI(0)	1,5	BDBI(1)	1,5	BDBI(2)	1,5	BDBI(3)	1,5
BDBI(4)	1,5	BDBI(5)	1,5	BDBI(6)	1,5	BDBI(7)	1,5
CA(0)	4	CA(1)	4	CA(2)	4	CA(3)	4
CA(4)	4	CA(5)	4	CA(6)	4	CA(7)	4
CA(8)	4	CA(9)	4	CB(0)	4	CB(1)	4
CB(2)	4	CB(3)	4	CB(4)	4	CB(5)	4
CB(6)	4	CB(7)	4	CB(8)	4	CB(9)	4
CLK	1,4	CLK4	3,4	CLK6	3,4	EA(0)	4
EA(1)	4	EA(2)	4	EA(3)	4	EA(4)	4
EA(5)	4	EA(6)	4	EA(7)	4	EA(8)	4
EA(9)	4	EB(0)	4	EB(1)	4	EB(2)	4
EB(3)	4	EB(4)	4	EB(5)	4	EB(6)	4
EB(7)	4	EB(8)	4	EB(9)	4	FA(0)	4
FA(1)	4	FA(2)	4	FA(3)	4	FA(4)	4
FA(5)	4	FA(6)	4	FA(7)	4	FA(8)	4
FA(9)	4	FB(0)	4	FB(1)	4	FB(2)	4
FB(3)	4	FB(4)	4	FB(5)	4	FB(6)	4
FB(7)	4	FB(8)	4	FB(9)	4	FLIP	3,5
FLIPIN	3,5	GA(0)	4	GA(1)	4	GA(2)	4
GA(3)	4	GA(4)	4	GA(5)	4	GA(6)	4
GA(7)	4	GA(8)	4	GA(9)	4	GND	1,3,4,5
HA(0)	4	HA(1)	4	HA(2)	4	HA(3)	4
HA(4)	4	HA(5)	4	HA(6)	4	HA(7)	4
HA(8)	4	HA(9)	4	I1A(0)	2,3	I1A(1)	2,3
I1A(2)	2,3	I1A(3)	2,3	I1A(4)	2,3	I1A(5)	2,3
I1A(6)	2,3	I1A(7)	2,3	I1ACLK	2,3	I1B(0)	2,3
I1B(1)	2,3	I1B(2)	2,3	I1B(3)	2,3	I1B(4)	2,3
I1B(5)	2,3	I1B(6)	2,3	I1B(7)	2,3	I1BCLK	2,3
IA/B	3,5	ISE	1,5	LEAD	3,5	VDI1A(0)	1,2
VDI1A(1)	1,2	VDI1A(2)	1,2	VDI1A(3)	1,2	VDI1A(4)	1,2
VDI1A(5)	1,2	VDI1A(6)	1,2	VDI1A(7)	1,2	VDI1ACLK	1,2
VDI1B(0)	1,2	VDI1B(1)	1,2	VDI1B(2)	1,2	VDI1B(3)	1,2
VDI1B(4)	1,2	VDI1B(5)	1,2	VDI1B(6)	1,2	VDI1B(7)	1,2
VDI1BCLK	1,2	VDIFC(0)	1,4	VDIFC(1)	1,4	VDIFC(2)	1,4
VDIFC(3)	1,4	VDIFC(4)	1,4	VDIFC(5)	1,4	VDIFC(6)	1,4
VDIFC(7)	1,4	VDIFL(0)	1,4	VDIFL(1)	1,4	VDIFL(2)	1,4
VDIFL(3)	1,4	VDIFL(4)	1,4	VDIFL(5)	1,4	VDIFL(6)	1,4
VDIFL(7)	1,4	V_RST	1,3	YC(0)	3	YC(1)	3
YC(2)	3	YC(3)	3	YC(4)	3	YC(5)	3
YC(6)	3	YC(7)	3	-I1ACLK	2,3	-I1BCLK	2,3

REFERENCE DESIGNATOR	PAGE	REFERENCE DESIGNATOR	PAGE	REFERENCE DESIGNATOR	PAGE	REFERENCE DESIGNATOR	PAGE	REFERENCE DESIGNATOR	PAGE	REFERENCE DESIGNATOR	PAGE	REFERENCE DESIGNATOR	PAGE
C1	2	C2	2	C3	2	C4	2	C5	1	C6	1	C7	1
C8	1	C9	1	C10	1	C11	1	C12	1	C13	1	C14	1
C15	1	C16	1	C17	1	C18	1	C19	1	C20	1	C21	1
C22	2	C23	2	C24	2	C25	2	C26	1	C27	1	C28	1
C29	1	C30	1	C31	1	C32	1	C33	1	C34	1	C35	1
C36	1	C37	1	C38	1	C39	1	C40	1	C41	1	C42	1
C43	1	C44	1	C45	1	C46	1	C47	1	C48	1	C49	1
C50	3	FB1	1	FB2	1	J1	1	J2	1	R1	2	R2	2
R3	2	R4	2	R5	2	R6	4	R7	4	R8	4	R9	4
R10	1	R11	1	R12	2	R13	2	R14	2	R15	2	R16	2
R17	4	R18	4	R19	4	R20	4	R21	3	R22	3	R24	2
R25	2	R26	2	R27	2	R30	3	R31	3	TP1	1	TP2	1
TP3	1	TP4	1	U0105	2	U0108	2	U0114	2	U0117	2	U0201	2
U0202	2	U0203	2	U0204	2	U0205	2	U0206	2	U0207	2	U0208	2
U0209	2	U0210	2	U0211	2	U0212	2	U0213	2	U0214	2	U0215	2
U0216	2	U0217	2	U0218	2	U0303	2	U0306	2	U0309	2	U0313	2
U0316	2	U0404	4	U0410	4	U0414	3	U0416	3	U0418	3	U0516	3
U0604	4	U0610	4	U0614	3	U0616	3	U0618	3	U0701	3,4	U0703	1,3,4
U0705	4	U0709	4	U0712	5	U0716	5	U0809	4	U0814	5		

D2 INPUT SUBMODULE
CROSS REFERENCE LISTS

D 10-064726-00 B1
NONE SHEET 6 OF 6

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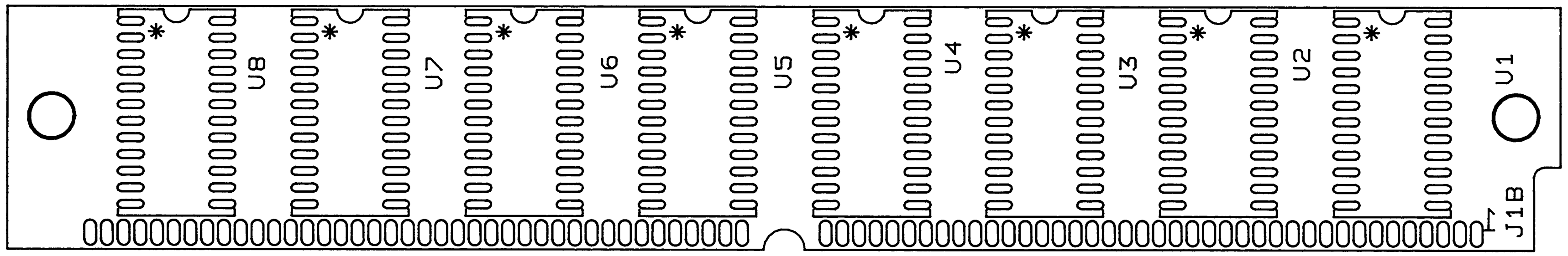
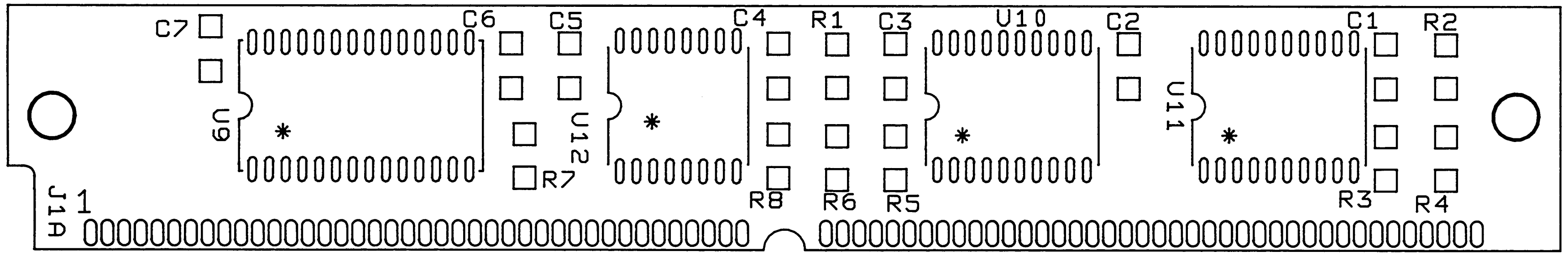
REVISIONS							
REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
A1	W473	ED	10-90	——	FL		——
PILOT RUN RELEASE							
B1	W625	KF	4-90	——	FL		——
ISSUE UPDATE							
B2	2074	RSB	11-90	——	FL		——

R1 R2 COMBINE SCHEMATIC VERSIONS TO INCLUDE 00,10,30. BRING REV LEVELS OF 10,30 UP TO SAME LEVEL.REV MUST TRACK THE SAME.

BOTTOM SIDE





TOP SIDE

NOTES:
1. SCHEMATIC REFERENCE: D10-064731-XX.
2. DARKENED COMPONENTS INDICATE TEST POINTS AND ADJUSTABLE COMPONENTS.
3. REFER TO SCHEMATIC FOR EDGE CONNECTOR PIN OUT INFORMATION.

ANY ECO MUST CAUSE REVISION LEVELS OF ALL VERSIONS TO BE THE SAME.

TABLE A		
DESCRIPTION	VERSION	REV
NTSC	-00	B2
PAL	-10	B2
625 CV	-30	B2

	CADNETIX
DPM-100	
USED ON	NEXT ASSY
APPLICATION	
DISTRIBUTION	

GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA A TEKTRONIX COMPANY

DRAWN AC DATE 08/26/89
ENGINEER FL
CHECKED DATE
APPROVED DATE
PILOT RUN RLSE FL DATE 25 OCT 89
DATE

COMPONENT LOCATION DIAGRAM
STATIC RAM MEZZANINE

SIZE B DRAWING NO. 07-064731- SEE TABLE B2
SCALE NONE SHEET 1 OF 1

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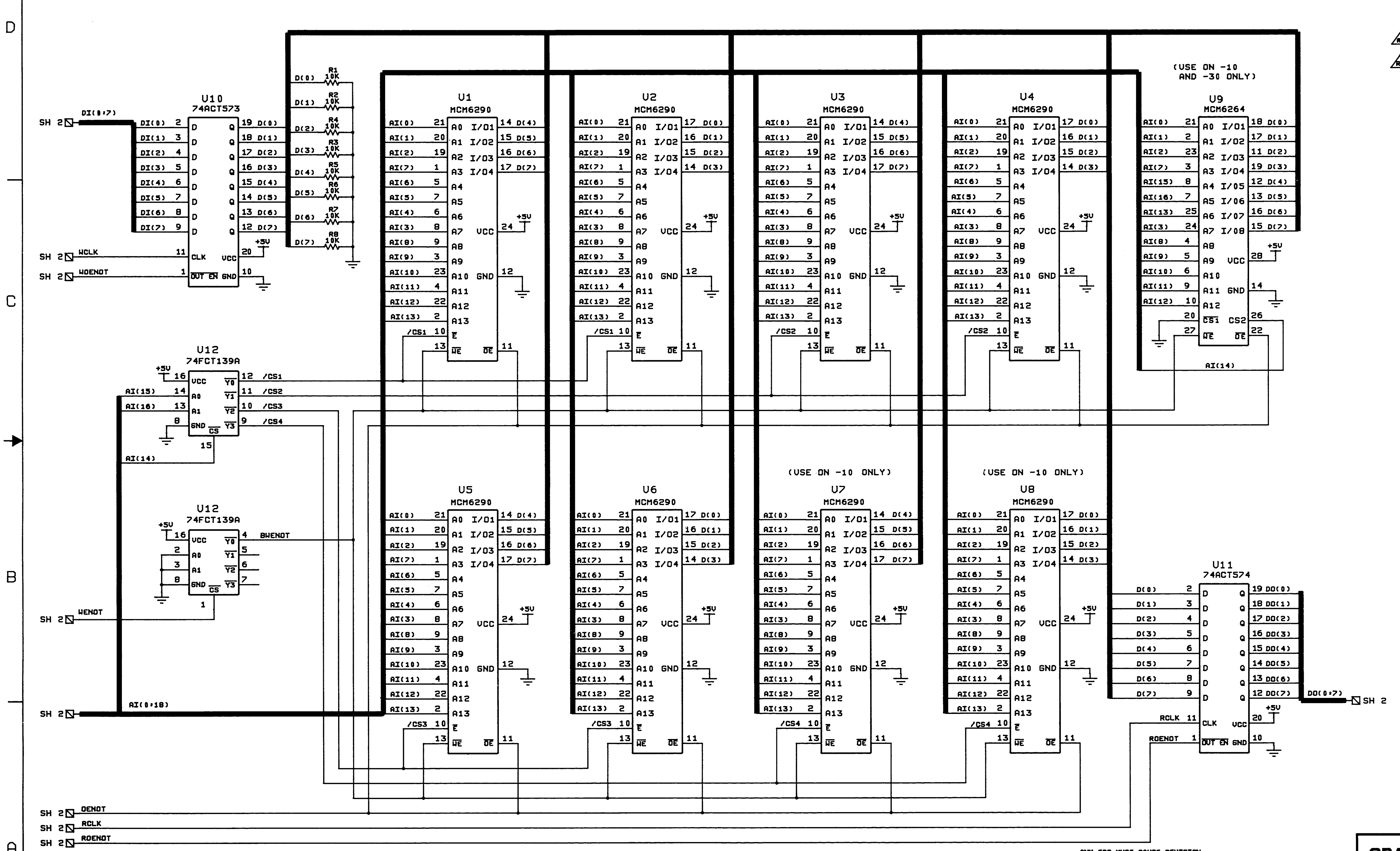
REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
A1	W473	ED	10/90	—	FL		—
PILOT RUN RELEASE							
B1	W625	KF	4/90	—	FL		—
ISSUE UPDATE							
B2	2074	RSB	11/90	—	FL		—

R1 COMBINE SCHEMATIC VERSIONS TO INCLUDE 00,10,30.

R2 BRING REV LEVELS OF 00,10,30 UP TO SAME LEVEL. REV LEVELS MUST TRACK THE SAME.



U10
74ACT573
U12
74FCT139A
U1
MCM6290
U2
MCM6290
U3
MCM6290
U4
MCM6290
(USE ON -10 AND -30 ONLY)
U9
MCM6264
U5
MCM6290
U6
MCM6290
(USE ON -10 ONLY)
U7
MCM6290
(USE ON -10 ONLY)
U8
MCM6290
U11
74ACT574
R1 10K
R2 10K
R3 10K
R4 10K
R5 10K
R6 10K
R7 10K
R8 10K
SH 2 DI(0:7)
SH 2 WCLK
SH 2 WOENOT
SH 2 WENOT
SH 2 AI(0:18)
SH 2 OENOT
SH 2 RCLK
SH 2 ROENOT
DO(0:7) SH 2
AI(15)
AI(16)
AI(14)
/CS1
/CS2
/CS3
/CS4
BWENOT
+5V
D(0)
D(1)
D(2)
D(3)
D(4)
D(5)
D(6)
D(7)

ANY ECO MUST CAUSE REVISION LEVELS OF ALL VERSIONS TO BE THE SAME

TABLE A

DESCRIPTION	VERSION	REV
NTSC	-00	B2
PAL	-10	B2
625 CV	-30	B2

	CADNETIX
DPM-100	
USED ON	NEXT ASSY
APPLICATION	
DISTRIBUTION	

GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA
A TEKTRONIX COMPANY

DRAWN FL	DATE 6/11/90	
ENGINEER FL		
CHECKED	DATE	
APPROVED FL	DATE 8/30/90	
PILOT RUN RLSE FL	DATE 8/30/90	
ENGRG RLSE	DATE	

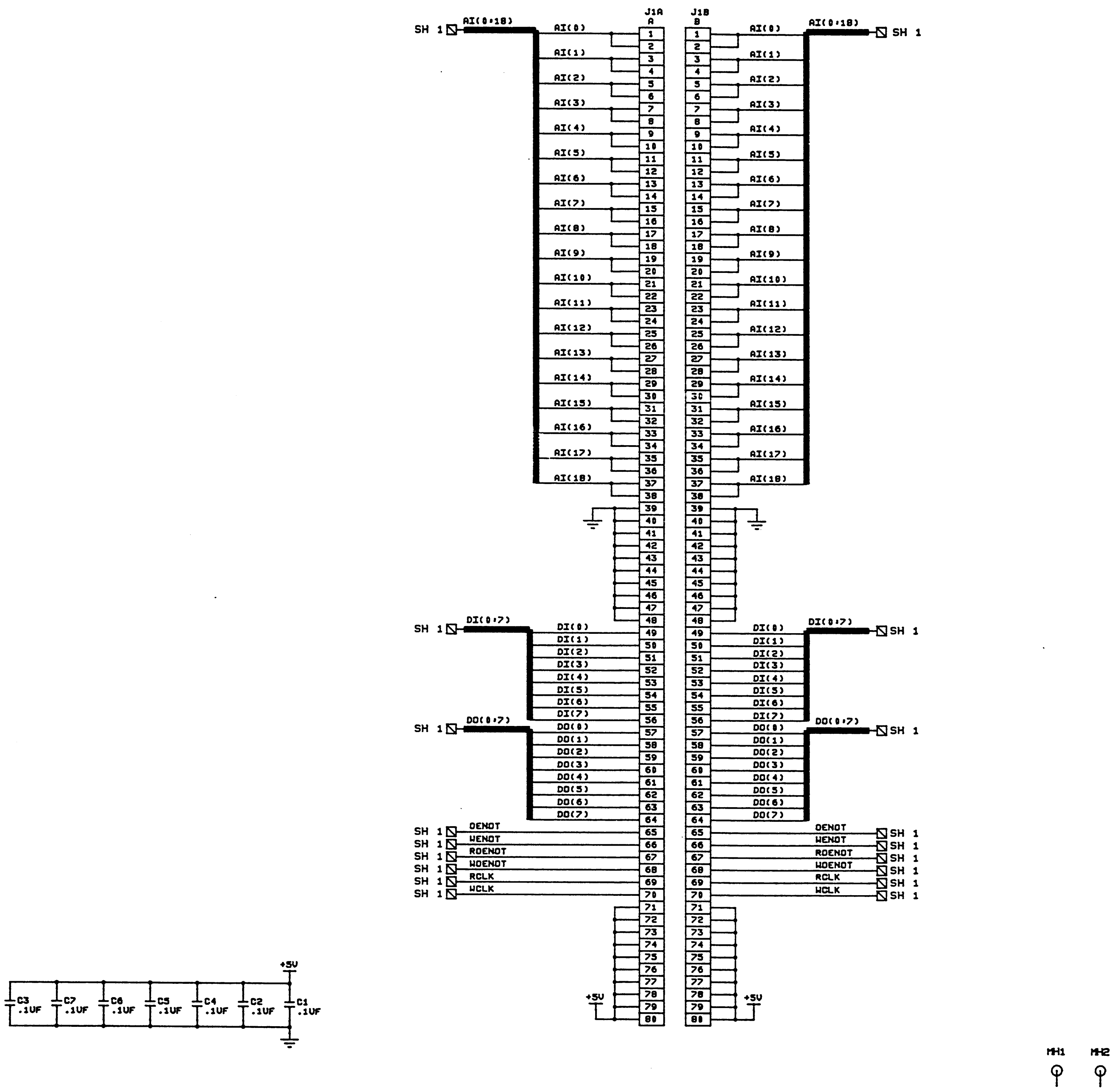
SCHEMATIC DIAGRAM

STATIC RAM MEZZANINE

SIZE D DRAWING NO. 10-064731-SEE TABLE REV B2

SCALE: NONE SHEET 1 OF 2

SEE SHEET 1 FOR REVISIONS



J1A
A
J1B
B
SH 1
AI(0:18)
AI(0)
AI(1)
AI(2)
AI(3)
AI(4)
AI(5)
AI(6)
AI(7)
AI(8)
AI(9)
AI(10)
AI(11)
AI(12)
AI(13)
AI(14)
AI(15)
AI(16)
AI(17)
AI(18)
1
2
3
4
5
6
7
8
9
10
11
12
13
14
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16
17
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51
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53
54
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58
59
60
61
62
63
64
65
66
67
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70
71
72
73
74
75
76
77
78
79
80
DI(0:7)
DI(0)
DI(1)
DI(2)
DI(3)
DI(4)
DI(5)
DI(6)
DI(7)
DO(0:7)
DO(0)
DO(1)
DO(2)
DO(3)
DO(4)
DO(5)
DO(6)
DO(7)
OENOT
WENOT
ROENOT
WOENOT
RCLK
WCLK
+5V
C3 .1UF
C7 .1UF
C6 .1UF
C5 .1UF
C4 .1UF
C2 .1UF
C1 .1UF
MH1
MH2

GRASS VALLEY GROUP

SCHEMATIC DIAGRAM

STATIC RAM MEZZANINE

SIZE D
DRAWING NO. 10-064731-SEE TABLE
REV B2
SCALE: NONE
SHEET 2 OF 2

B 07-064732-00/10 D1 1

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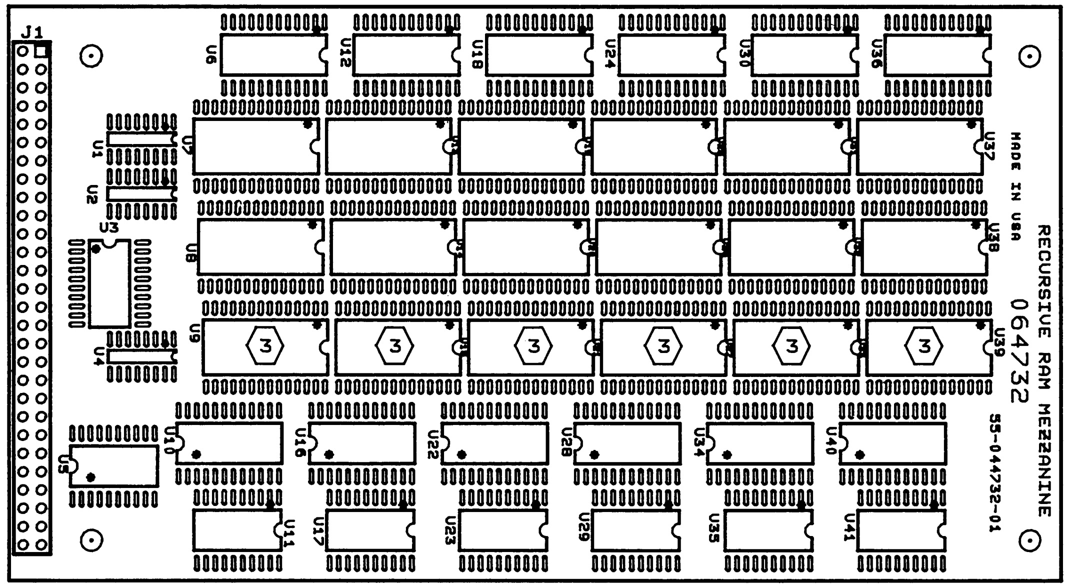
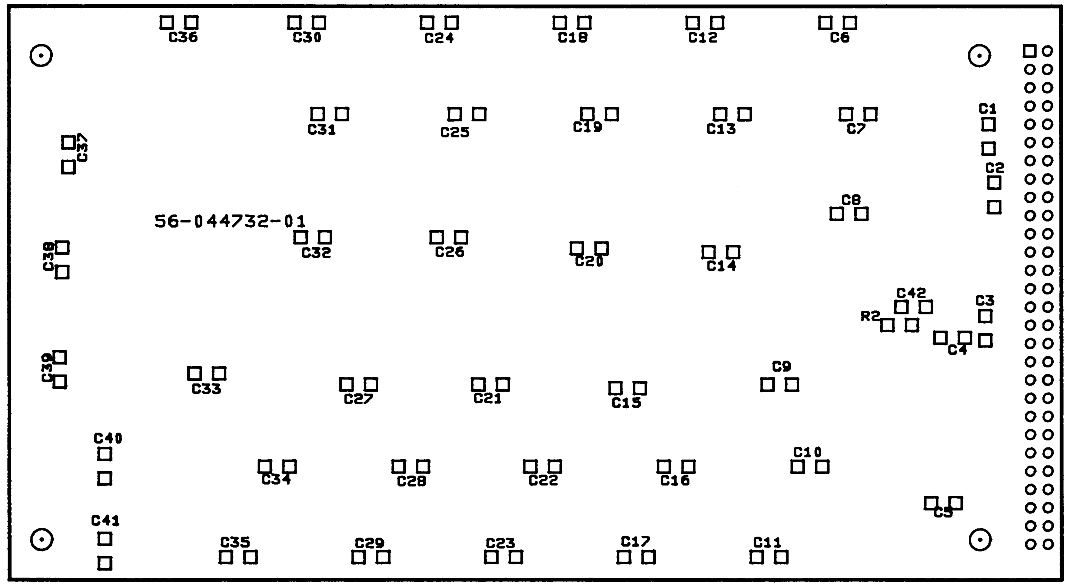
REVISIONS							
REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
A1	W445	——	——	——	——		——
PILOT RUN RELEASE							
B1	W525	——	——	——	——		
ISSUE UPDATE							
C1	W594	——	——	——	——		
ISSUE UPDATE							
C2	H507	——	——	——	——		
ISSUE UPDATE							
D1	Z075	CDP	12/90	——	FL		
ADD -10							

TOP SIDE


J1
U1
U2
U3
U4
U5
U6
U7
U8
U9
U10
U11
U12
U16
U17
U18
U22
U23
U24
U28
U29
U30
U34
U35
U36
U37
U38
U39
U40
U41
3
MADE IN USA
RECURSIVE RAM MEZZANINE
064732
55-044732-01

NOTES:

1. SCHEMATIC REFERENCE: D10-064732-00/10.
2. REFER TO SCHEMATIC FOR CONNECTOR PINOUT INFORMATION.
3. U9,U15,U21,U27,U33, AND U39 ARE INSTALLED ON -10 ONLY.


C36
C30
C24
C18
C12
C6
C31
C25
C19
C13
C7
C1
C2
C37
C8
56-044732-01
C32
C26
C20
C14
C38
C42
R2
C3
C4
C39
C33
C27
C21
C15
C9
C40
C34
C28
C22
C16
C10
C5
C41
C35
C29
C23
C17
C11

BOTTOM SIDE

DASH NUMBER TABLE		
DESCRIPTION	VERSION	REV
NTSC	-00	D1
PAL	-10	D1

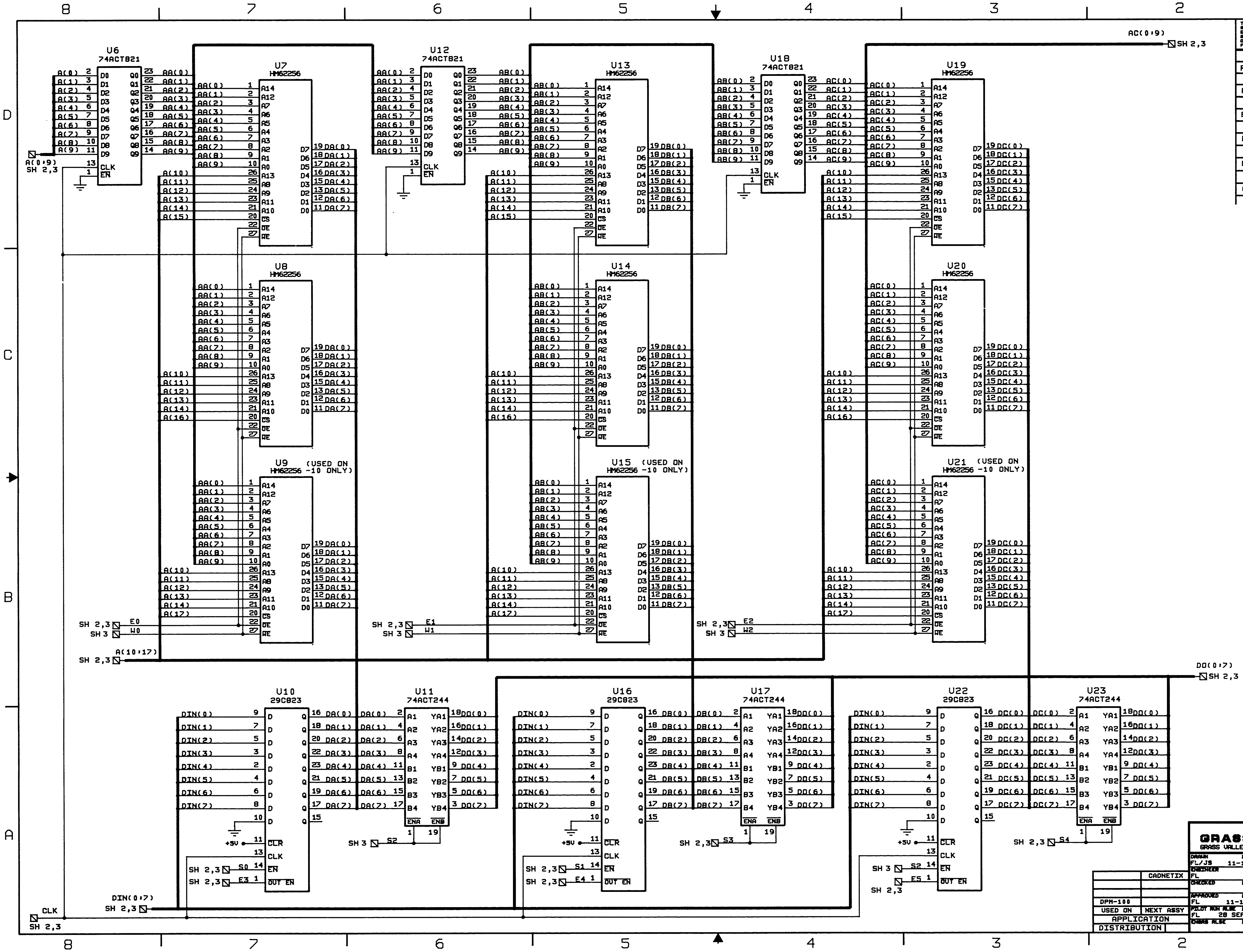
GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA A TEKTRONIX COMPANY

DRAWN AC DATE 13SEP89
ENGINEER
CHECKED DATE
APPROVED DATE
PILOT RUN RLSE DATE FL
ISSUE RLSE DATE

COMPONENT LOCATION DIAGRAM
RECURSIVE MEMORY
RAM MEZZANINE

SIZE B DRAWING NO. 07-064732 SEE TABLE D1
SCALE NONE SHEET 1 OF 1

	CADNETIX
DPM 100	064732
USED ON	NEXT ASSY
APPLICATION	
DISTRIBUTION	


U6
74ACT821
U7
HM62256
U8
HM62256
U9 (USED ON -10 ONLY)
HM62256
U10
29C823
U11
74ACT244
U12
74ACT821
U13
HM62256
U14
HM62256
U15 (USED ON -10 ONLY)
HM62256
U16
29C823
U17
74ACT244
U18
74ACT821
U19
HM62256
U20
HM62256
U21 (USED ON -10 ONLY)
HM62256
U22
29C823
U23
74ACT244
A(0:9) SH 2,3
AC(0:9) SH 2,3
A(10:17) SH 2,3
DO(0:7) SH 2,3
DIN(0:7) SH 2,3
CLK SH 2,3
SH 2,3 E0
SH 3 W0
SH 2,3 E1
SH 3 W1
SH 2,3 E2
SH 3 W2
SH 3 S2
SH 2,3 S3
SH 2,3 S4
SH 2,3 S0
SH 2,3 E3
SH 2,3 S1
SH 2,3 E4
SH 3 S2
SH 2,3 E5
+5V

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REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
A1	W445	JS	9/89	—	—	10/89	—
PILOT RUN RELEASE - NO CHANGES							
B1	W525	JS	2/90	—	CAH	2/90	
BOM CHANGE (PCB FROM -00 TO -01)							
C1	W594	CDP	11/90	—	FL		
BOM ISSUE UPDATE							
C2	H507	CDP	11/90	—	FL		
BOM ISSUE UPDATE							
D1	Z075	CDP	11/90	—	FL		
ADD -10 INFORMATION							

ANY ECO MUST CAUSE
REVISION LEVEL OF ALL
VERSIONS TO BE THE SAME.

DASH NO. TABLE

DESCRIPTION	VERSION	REV
NTSC	-00	D1
PAL	-10	D1

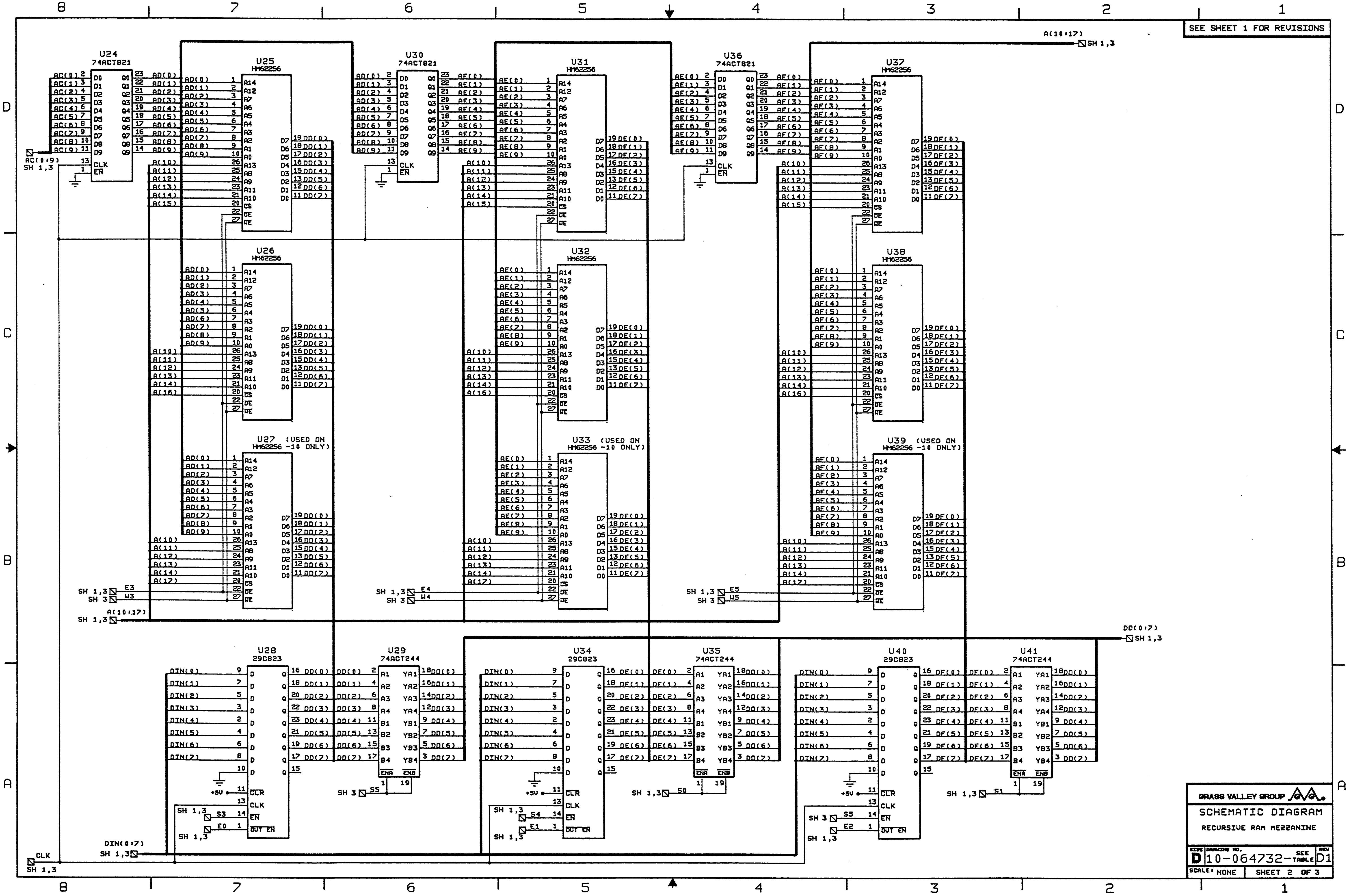
GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA
A TEKTRONIX COMPANY

	CADNETIX
DPM-100	
USED ON	NEXT ASSY
APPLICATION	
DISTRIBUTION	

DRAWN FL/JS DATE 11-17-88
ENGINEER FL
CHECKED DATE
APPROVED FL DATE 11-17-88
PILOT RUN RLSE FL DATE 28 SEPT 89
ENGRG RLSE DATE

SCHEMATIC DIAGRAM
RECURSIVE RAM MEZZANINE

SIZE D
DRAWING NO. 10-064732-SEE TABLE
REV D1
SCALE: NONE
SHEET 1 OF 3


SEE SHEET 1 FOR REVISIONS
U24
74ACT821
AC(0:9)
SH 1,3
U25
HM62256
U26
HM62256
U27 (USED ON
HM62256 -10 ONLY)
U30
74ACT821
U31
HM62256
U32
HM62256
U33 (USED ON
HM62256 -10 ONLY)
U36
74ACT821
U37
HM62256
U38
HM62256
U39 (USED ON
HM62256 -10 ONLY)
A(10:17)
SH 1,3
AD(0)…AD(9)
AE(0)…AE(9)
AF(0)…AF(9)
DD(0)…DD(7)
DE(0)…DE(7)
DF(0)…DF(7)
A(10)…A(17)
SH 1,3 E3
SH 3 W3
SH 1,3 E4
SH 3 W4
SH 1,3 E5
SH 3 W5
A(10:17)
SH 1,3
DD(0:7)
SH 1,3
U28
29C823
U29
74ACT244
U34
29C823
U35
74ACT244
U40
29C823
U41
74ACT244
DIN(0)…DIN(7)
+5V
CLR
CLK
EN
OUT EN
SH 1,3 S3
SH 1,3 E0
SH 3 S5
SH 1,3 S4
SH 1,3 E1
SH 1,3 S0
SH 3 S5
SH 1,3 E2
SH 1,3 S1
DIN(0:7)
SH 1,3
CLK
SH 1,3

GRASS VALLEY GROUP

SCHEMATIC DIAGRAM

RECURSIVE RAM MEZZANINE

SIZE: D

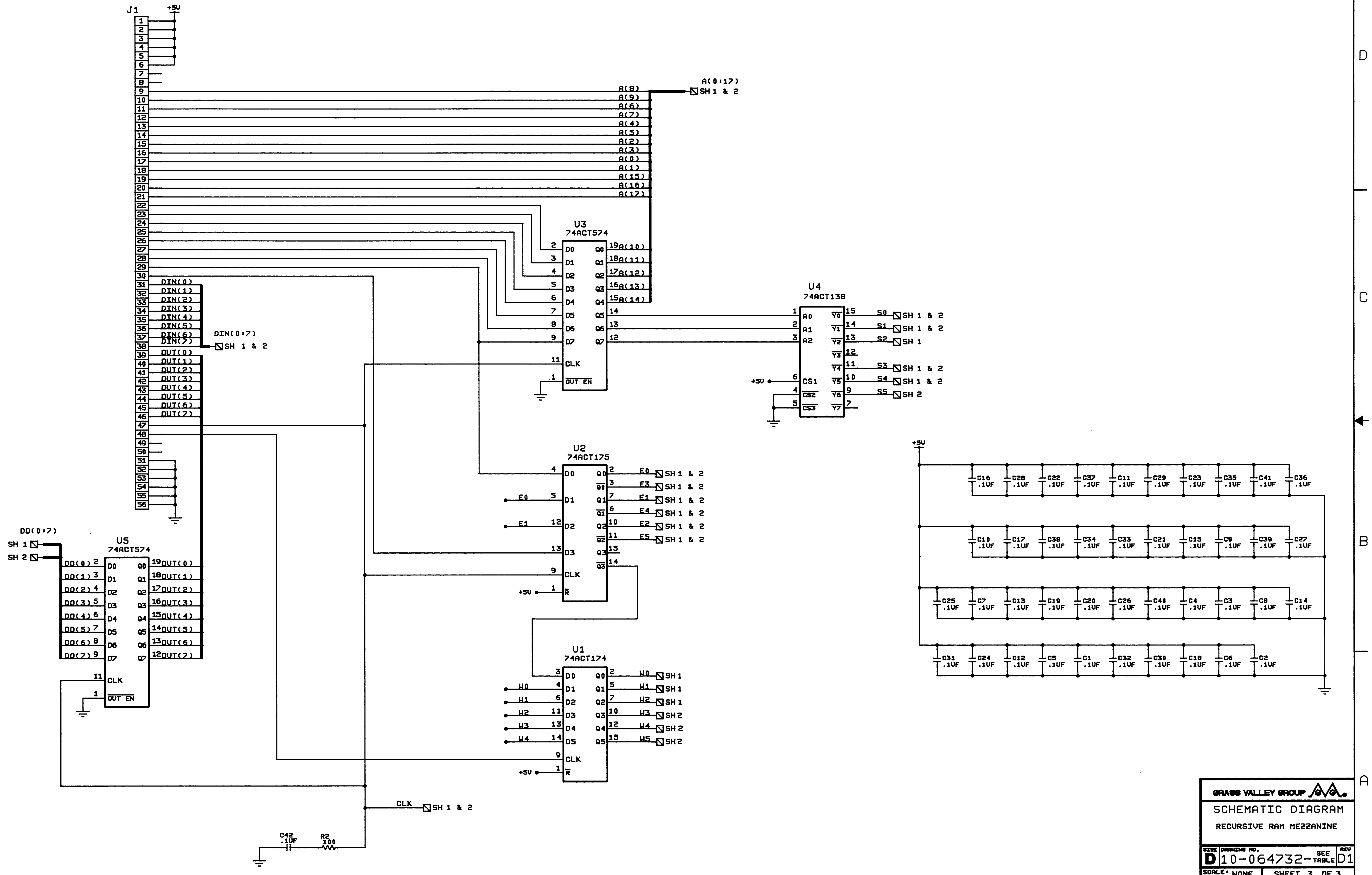
DRAWING NO. 10-064732-SEE TABLE

REV D1

SCALE: NONE

SHEET 2 OF 3

SEE SHEET 1 FOR REVISIONS


J1
+5V
A(0:17)
SH 1 & 2
A(8) A(9) A(6) A(7) A(4) A(5) A(2) A(3) A(0) A(1) A(15) A(16) A(17)
U3
74ACT574
D0 D1 D2 D3 D4 D5 D6 D7 CLK OUT EN
Q0 Q1 Q2 Q3 Q4 Q5 Q6 Q7
A(10) A(11) A(12) A(13) A(14)
U4
74ACT138
A0 A1 A2 CS1 CS2 CS3
Y0 Y1 Y2 Y3 Y4 Y5 Y6 Y7
S0 SH 1 & 2
S1 SH 1 & 2
S2 SH 1
S3 SH 1 & 2
S4 SH 1 & 2
S5 SH 2
DIN(0) DIN(1) DIN(2) DIN(3) DIN(4) DIN(5) DIN(6) DIN(7)
DIN(0:7)
SH 1 & 2
DOUT(0) DOUT(1) DOUT(2) DOUT(3) DOUT(4) DOUT(5) DOUT(6) DOUT(7)
U2
74ACT175
D0 D1 D2 D3 CLK R
Q0 Q0 Q1 Q1 Q2 Q2 Q3 Q3
E0 SH 1 & 2
E3 SH 1 & 2
E1 SH 1 & 2
E4 SH 1 & 2
E2 SH 1 & 2
E5 SH 1 & 2
DD(0:7)
SH 1
SH 2
U5
74ACT574
DD(0) DD(1) DD(2) DD(3) DD(4) DD(5) DD(6) DD(7)
U1
74ACT174
H0 SH1
H1 SH1
H2 SH1
H3 SH2
H4 SH2
H5 SH2
CLK
SH 1 & 2
C42 .1UF
R2 100
C16 C28 C22 C37 C11 C29 C23 C35 C41 C36
C10 C17 C38 C34 C33 C21 C15 C9 C39 C27
C25 C7 C13 C19 C20 C26 C40 C4 C3 C8 C14
C31 C24 C12 C5 C1 C32 C30 C18 C6 C2
.1UF

GRASS VALLEY GROUP

SCHEMATIC DIAGRAM

RECURSIVE RAM MEZZANINE

SIZE D | DRAWING NO. 10-064732- SEE TABLE | REV D1

SCALE: NONE | SHEET 3 OF 3

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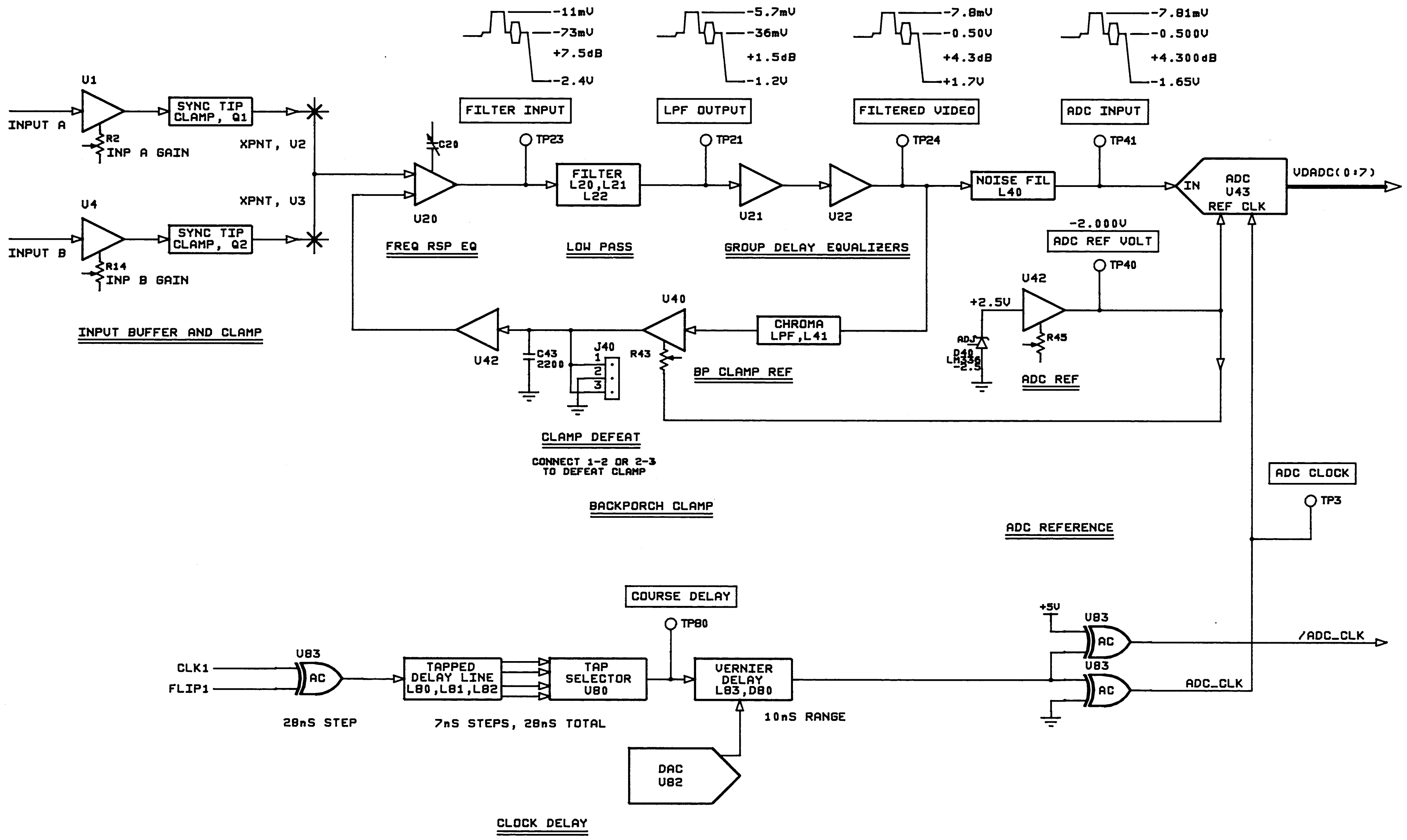
REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
A1	2107	RSB	11/90	—	—		

PILOT RUN RELEASE



-11mV
-73mV
+7.5dB
-2.4V
FILTER INPUT
TP23
-5.7mV
-36mV
+1.5dB
-1.2V
LPF OUTPUT
TP21
-7.8mV
-0.50V
+4.3dB
+1.7V
FILTERED VIDEO
TP24
-7.81mV
-0.500V
+4.300dB
-1.65V
ADC INPUT
TP41
U1
INPUT A
SYNC TIP CLAMP, Q1
R2
INP A GAIN
XPNT, U2
U4
INPUT B
SYNC TIP CLAMP, Q2
R14
INP B GAIN
XPNT, U3
INPUT BUFFER AND CLAMP
C20
U20
FREQ RSP EQ
FILTER L20,L21 L22
LOW PASS
U21
U22
GROUP DELAY EQUALIZERS
NOISE FIL L40
IN
ADC U43
REF CLK
VDADC(0:7)
-2.000V
ADC REF VOLT
TP40
U42
+2.5V
ADJ
D40
LM336
-2.5
R45
ADC REF
U40
CHROMA LPF,L41
U42
C43
2200
J40
1
2
3
R43
BP CLAMP REF
CLAMP DEFEAT
CONNECT 1-2 OR 2-3 TO DEFEAT CLAMP
BACKPORCH CLAMP
ADC REFERENCE
ADC CLOCK
TP3
COURSE DELAY
TP80
CLK1
FLIP1
U83
AC
28nS STEP
TAPPED DELAY LINE L80,L81,L82
7nS STEPS, 28nS TOTAL
TAP SELECTOR U80
VERNIER DELAY L83,D80
10nS RANGE
DAC U82
CLOCK DELAY
+5V
U83
AC
/ADC_CLK
U83
AC
ADC_CLK

GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA
A TEKTRONIX COMPANY

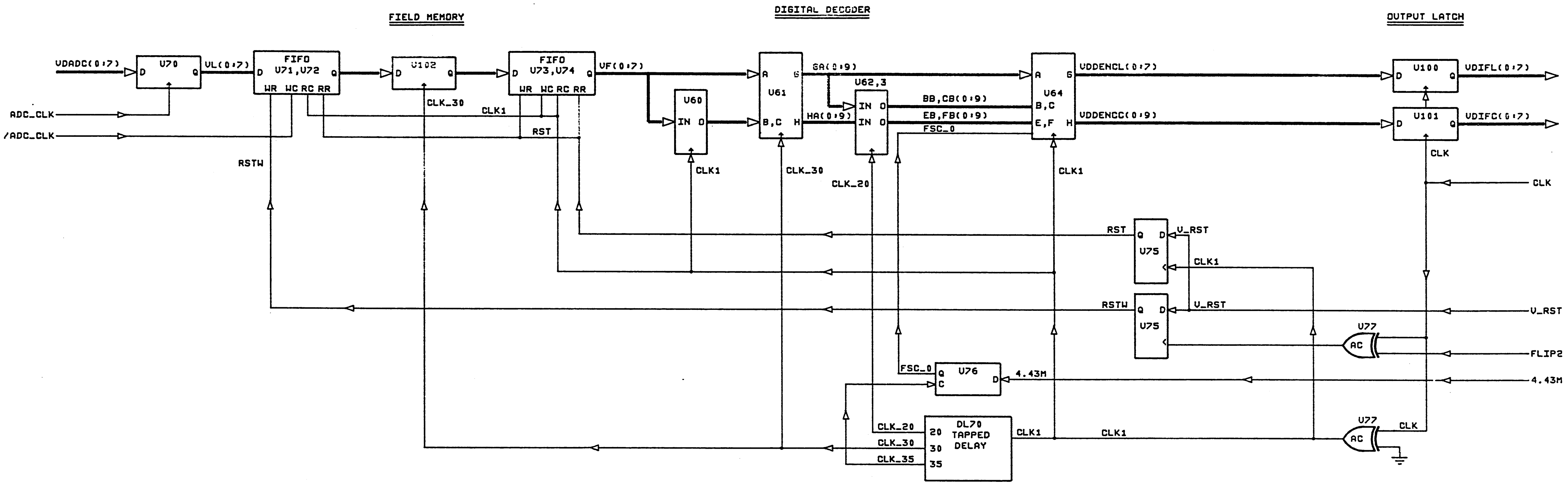
DRAWN MMB/RSB DATE 11/11/90
ENGINEER MMB
CHECKED DATE
APPROVED DATE
PILOT RUN RLSE DATE MB 11/20/90
ENGRG RLSE DATE

CADNETIX
DPM-100
USED ON | NEXT ASSY
APPLICATION
DISTRIBUTION

BLOCK DIAGRAM
PAL COMPOSITE
INPUT SUBMODULE

SIZE D
DRAWING NO. 00-064735-00
REV A1
SCALE: NONE
SHEET 1 OF 2

SEE SHEET 1 FOR REVISIONS


FIELD MEMORY
DIGITAL DECODER
OUTPUT LATCH
VDADC(0:7)
U70
D
Q
VL(0:7)
FIFO
U71,U72
WR WC RC RR
U102
FIFO
U73,U74
VF(0:7)
ADC_CLK
/ADC_CLK
RSTW
CLK_30
CLK1
RST
U60
IN
D
CLK1
U61
A
G
B,C
H
CLK_30
GA(0:9)
HA(0:9)
U62,3
CLK_20
BB,CB(0:9)
EB,FB(0:9)
FSC_0
U64
CLK1
VDDENCL(0:7)
VDDENCC(0:9)
U100
U101
VDIFL(0:7)
VDIFC(0:7)
CLK
CLK
RST
V_RST
U75
CLK1
RSTW
V_RST
U75
U77
AC
FLIP2
V_RST
FSC_0
U76
4.43M
4.43M
DL70
TAPPED
DELAY
20
30
35
CLK_20
CLK_30
CLK_35
CLK1
CLK1
U77
AC
CLK

GRASS VALLEY GROUP

BLOCK DIAGRAM
PAL COMPOSITE
INPUT SUBMODULE

SIZE D
DRAWING NO. 00-064735-00
REV A1
SCALE: NONE
SHEET 2 OF 2

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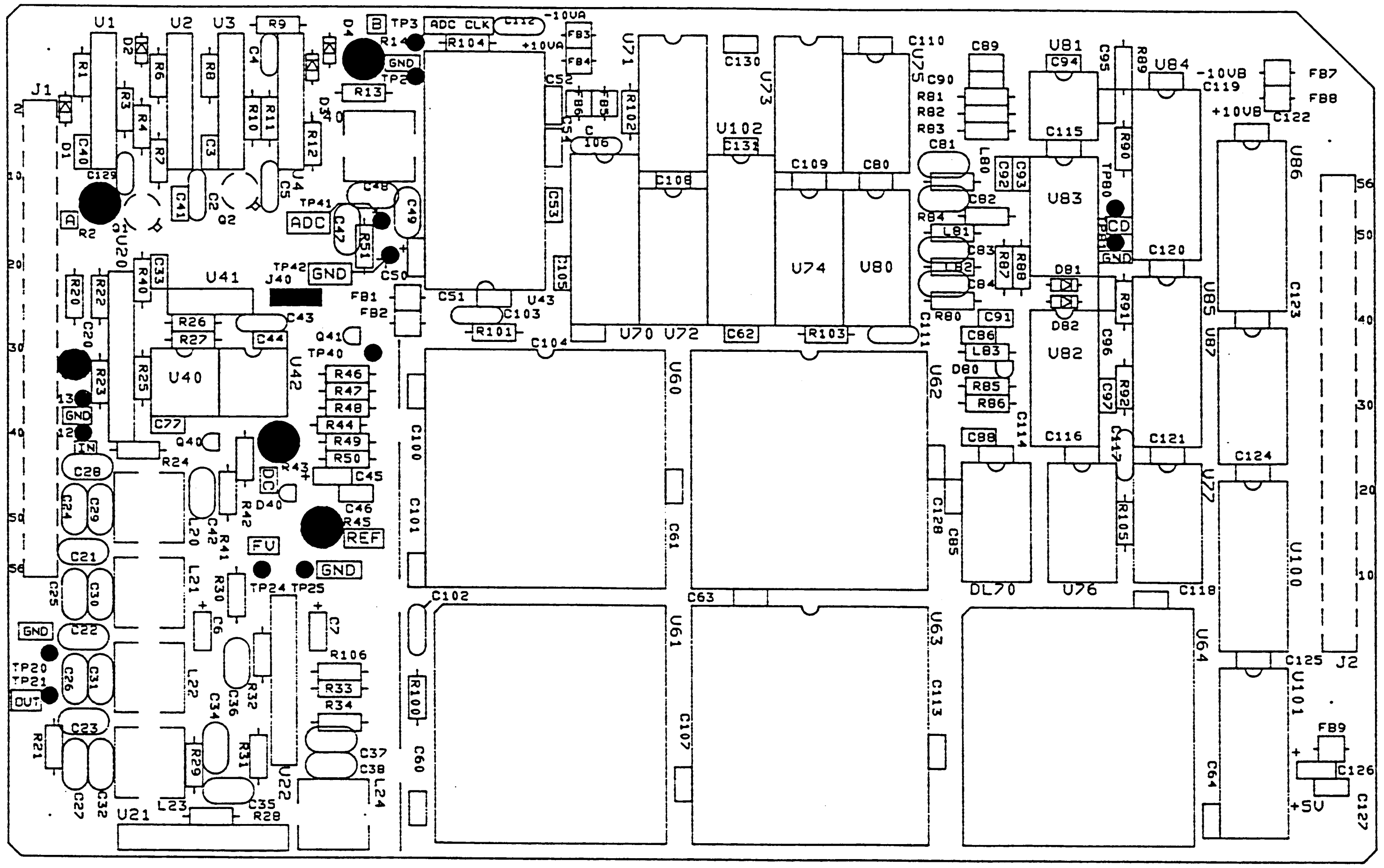
REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	
A1	2107	RSB	11/90	——			——

PILOT RUN RELEASE



J1
U1
U2
U3
R9
D4
TP3
ADC CLK
C112
-10VA
R14
R104
+10VA
FB3
FB4
GND
TP2
R13
U71
U73
U75
C130
C110
C89
U81
C94
C95
R89
U84
-10VB
C119
+10VB
FB7
FB8
C122
R1
D2
R6
R8
C4
R10
R11
R12
D3
R3
R4
R7
D1
C40
C3
C129
C41
C2
Q2
C5
TP41
ADC
C48
C49
C42
R51
C50
U20
C33
R40
R2
U41
TP42
J40
GND
FB1
FB2
C51
U43
C103
R101
C104
R20
R22
R26
R27
C44
C43
Q41
TP40
U40
U42
R25
R23
C20
GND
IN
C77
Q40
R24
R46
R47
R48
R44
R49
R50
C45
R43
DC
D40
C46
R45
REF
C28
C24
C29
R42
C42
R41
R30
FU
GND
TP24
TP25
C21
C25
C30
L20
L21
C6
C7
GND
C22
TP20
TP21
OUT
C26
C31
L22
C36
C34
R32
R106
R33
R34
R21
C23
R29
R31
U22
C37
C38
L24
C27
C32
U21
L23
C35
R28
C53
C55
B5
B6
R102
C
C105
C106
U102
C132
C109
C80
C108
C90
R81
R82
R83
C81
L80
C92
C93
U83
TP80
C82
R84
L81
CD
GND
C83
R87
R88
C84
R80
U70
U72
C62
R103
U74
U80
C111
D81
D82
C91
C86
L83
D80
R85
R86
C96
R91
U82
C97
R92
C88
C114
C116
C117
C121
C115
R90
U86
C120
C123
U85
U87
C124
U60
U62
C100
C101
C61
C128
C85
DL70
U76
R105
C118
U77
U100
C102
C63
U61
U63
U64
R100
C107
C113
C60
C64
C125
J2
U101
FB9
C126
+5V
C127
56
50
40
30
20
10
1

NOTES:
1. SCHEMATIC REFERENCE: D10-064735-00.
2. DARKENED COMPONENTS INDICATE TEST POINTS AND ADJUSTABLE COMPONENTS.
3. REFER TO SCHEMATIC FOR EDGE CONNECTOR PIN OUT INFORMATION.

	CADNETIX
DPM-100	
USED ON	NEXT ASSY
APPLICATION	
DISTRIBUTION	

GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA *A TEKTRONIX COMPANY*

DRAWN RSB	DATE 09/28/90	COMPONENT ADJUSTMENT/LOCATION PAL COMPOSITE INPUT SUBMODULE	
ENGINEER MMB			
CHECKED	DATE		
APPROVED	DATE	SIZE B	DRAWING NO. 07/08-064735-00 A1
PILOT RUN RLSE TMMB	DATE 11/19/90		
ENG'G RLSE	DATE	SCALE: NONE	SHEET 1 OF 1

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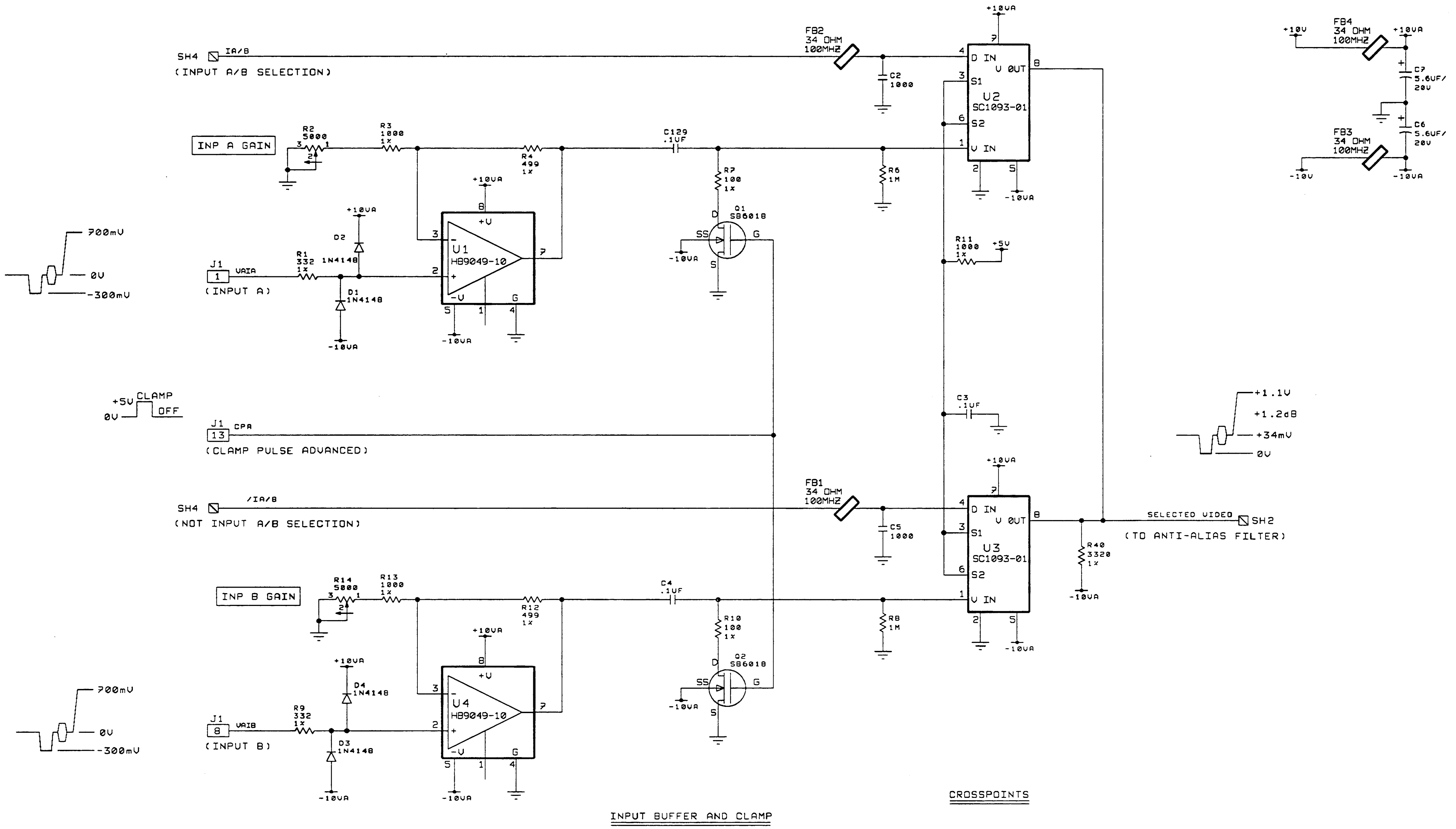
REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
A1	2107	RSB	11/90	—	—		—
PILOT RUN RELEASE							
B1	2149	RSB	1/91	—	D.A	2/91	—

ADDED NOTE TO J1 AND J2 (PG 8).



SH4
IA/B
(INPUT A/B SELECTION)
FB2
34 OHM
100MHZ
C2
1000
+10VA
D IN
V OUT
S1
S2
V IN
U2
SC1093-01
-10VA
INP A GAIN
R2
5000
R3
1000
1%
R4
499
1%
C129
.1UF
R7
100
1%
R6
1M
Q1
SD6018
SS
D
G
S
-10VA
R11
1000
1%
+5V
U1
HB9049-10
+V
-V
G
D2
1N4148
R1
332
1%
D1
1N4148
J1
1
VAIA
(INPUT A)
700mV
0V
-300mV
+5V
CLAMP
OFF
0V
J1
13
CPA
(CLAMP PULSE ADVANCED)
C3
.1UF
SH4
/IA/B
(NOT INPUT A/B SELECTION)
FB1
34 OHM
100MHZ
C5
1000
U3
SC1093-01
SELECTED VIDEO
SH2
(TO ANTI-ALIAS FILTER)
R40
3320
1%
+1.1V
+1.2dB
+34mV
0V
INP B GAIN
R14
5000
R13
1000
1%
R12
499
1%
C4
.1UF
R10
100
1%
R8
1M
Q2
SD6018
U4
HB9049-10
D4
1N4148
R9
332
1%
D3
1N4148
J1
8
VAIB
(INPUT B)
+10V
FB4
34 OHM
100MHZ
C7
5.6UF/
20V
C6
5.6UF/
20V
FB3
34 OHM
100MHZ
-10V
-10VA
INPUT BUFFER AND CLAMP
CROSSPOINTS

GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA
A TEKTRONIX COMPANY

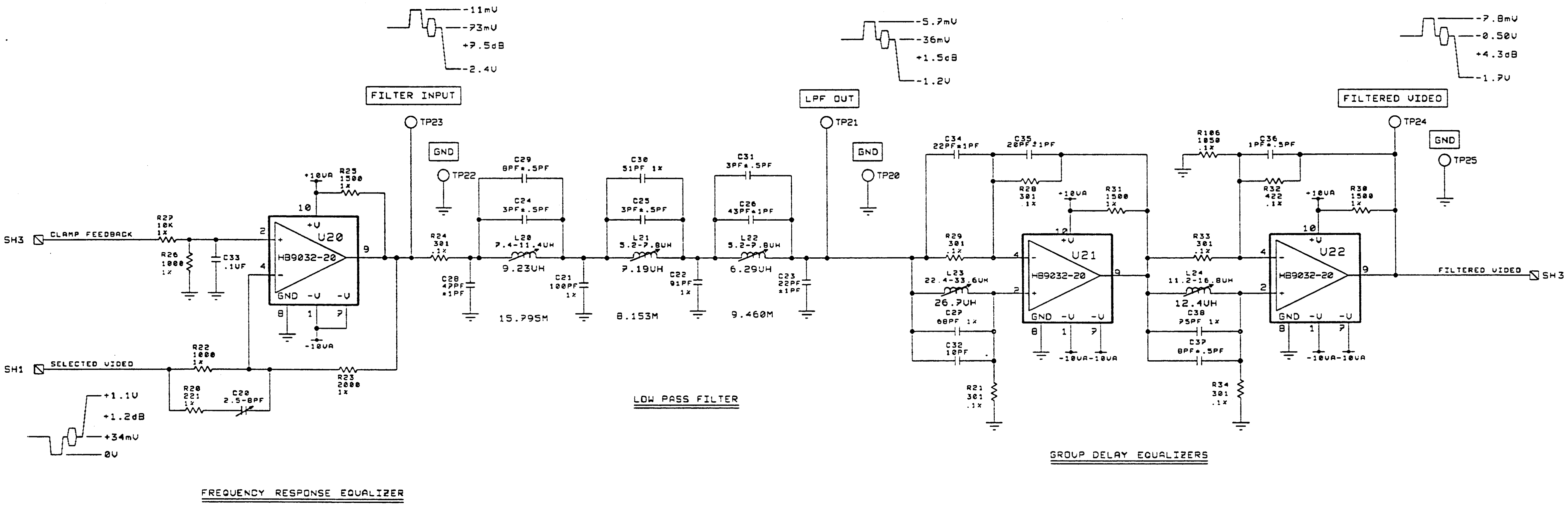
DRAWN JJP/MMB	DATE 6/29/90
ENGINEER JJP/MMB	DATE 6/29/90
CHECKED	DATE
APPROVED MMB	DATE 11/08/90
PILOT RUN RLSE MMB	DATE 11/08/90
ENGRG RLSE	DATE

SCHEMATIC DIAGRAM
PAL COMPOSITE
INPUT SUBMODULE
INPUT BUFFERS/CROSSPOINTS

	CADNETIX
DPA-100	
USED ON	NEXT ASSY
APPLICATION	
DISTRIBUTION	

SIZE D
DRAWING NO. 10-064735-00
REV B1
SCALE: NONE
SHEET 1 OF 9

SEE SHEET 1 FOR REVISIONS


-11mV
-73mV
+7.5dB
-2.4V
FILTER INPUT
TP23
GND
TP22
-5.7mV
-36mV
+1.5dB
-1.2V
LPF OUT
TP21
GND
TP20
-7.8mV
-0.50V
+4.3dB
-1.7V
FILTERED VIDEO
TP24
GND
TP25
SH3
CLAMP FEEDBACK
R27 10K 1%
R26 1000 1%
C33 .1UF
+10VA
R25 1500 1%
10
2
4
9
+V
U20
HB9032-20
GND -V -V
8 1 7
-10VA
SH1
SELECTED VIDEO
R22 1000 1%
R23 2000 1%
R20 221 1%
C20 2.5-8PF
+1.1V
+1.2dB
+34mV
0V
FREQUENCY RESPONSE EQUALIZER
R24 301 .1%
C29 8PF±.5PF
C24 3PF±.5PF
L20 7.4-11.4UH
9.23UH
C28 47PF ±1PF
C21 100PF 1%
15.795M
C30 51PF 1%
C25 3PF±.5PF
L21 5.2-7.8UH
7.19UH
C22 91PF 1%
8.153M
C31 3PF±.5PF
C26 43PF±1PF
L22 5.2-7.8UH
6.29UH
C23 22PF ±1PF
9.460M
LOW PASS FILTER
C34 22PF±1PF
C35 20PF±1PF
R28 301 .1%
+10VA
R31 1500 1%
R29 301 .1%
L23 22.4-33.6UH
26.7UH
C27 68PF 1%
C32 10PF
R21 301 .1%
12
+V
U21
HB9032-20
GND -V -V
4
2
9
8 1 7
-10VA-10VA
R106 1050 .1%
C36 1PF±.5PF
R32 422 .1%
+10VA
R30 1500 1%
R33 301 .1%
L24 11.2-16.8UH
12.4UH
C38 75PF 1%
C37 8PF±.5PF
R34 301 .1%
10
+V
U22
HB9032-20
GND -V -V
4
2
9
8 1 7
-10VA-10VA
FILTERED VIDEO
SH3
GROUP DELAY EQUALIZERS

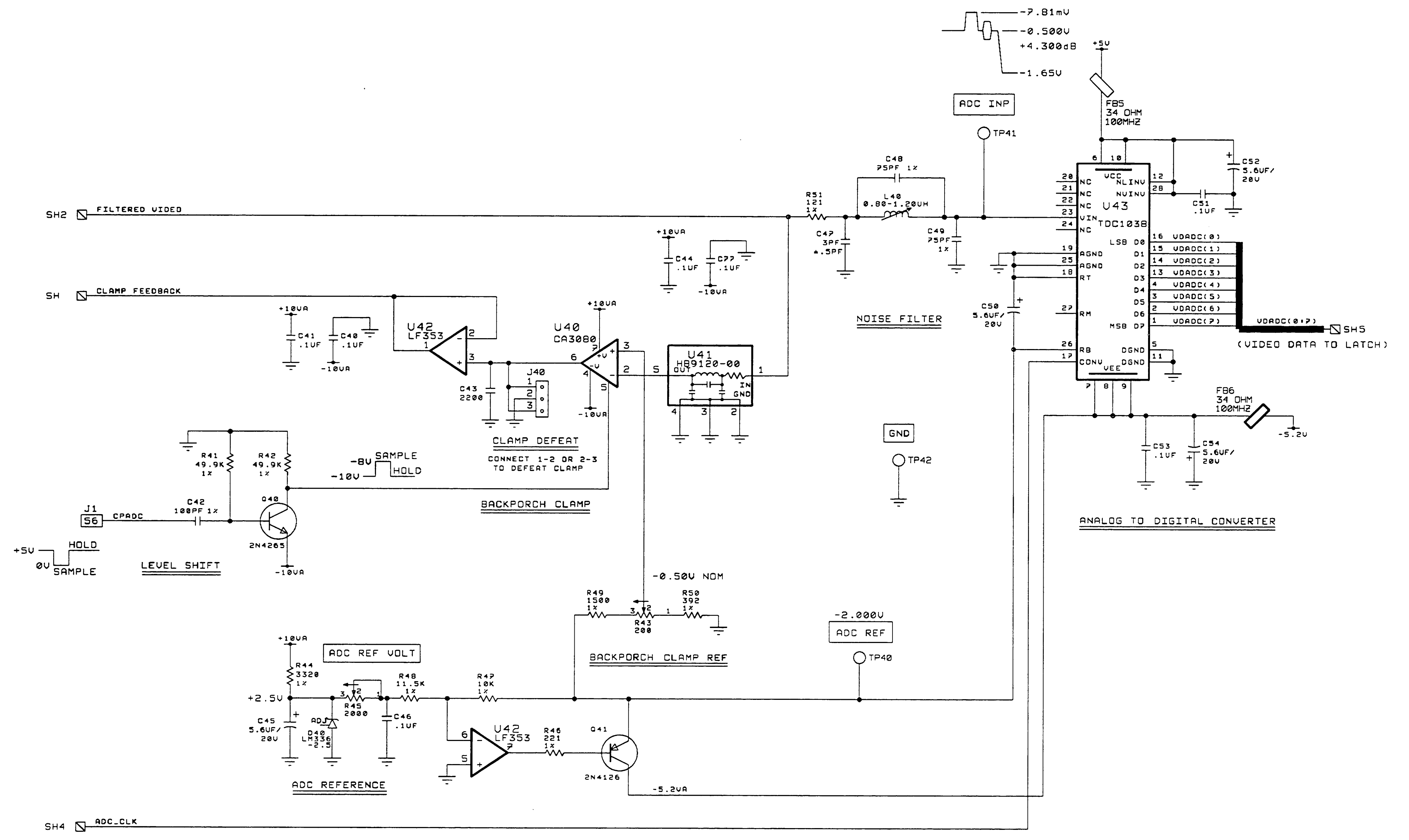
GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
PAL COMPOSITE
INPUT SUBMODULE
ANTI-ALIAS FILTER

SIZE	DRAWING NO.	REV
D	10-064735-00	A1

SCALE: NONE	SHEET 2 OF 9

SEE SHEET 1 FOR REVISIONS

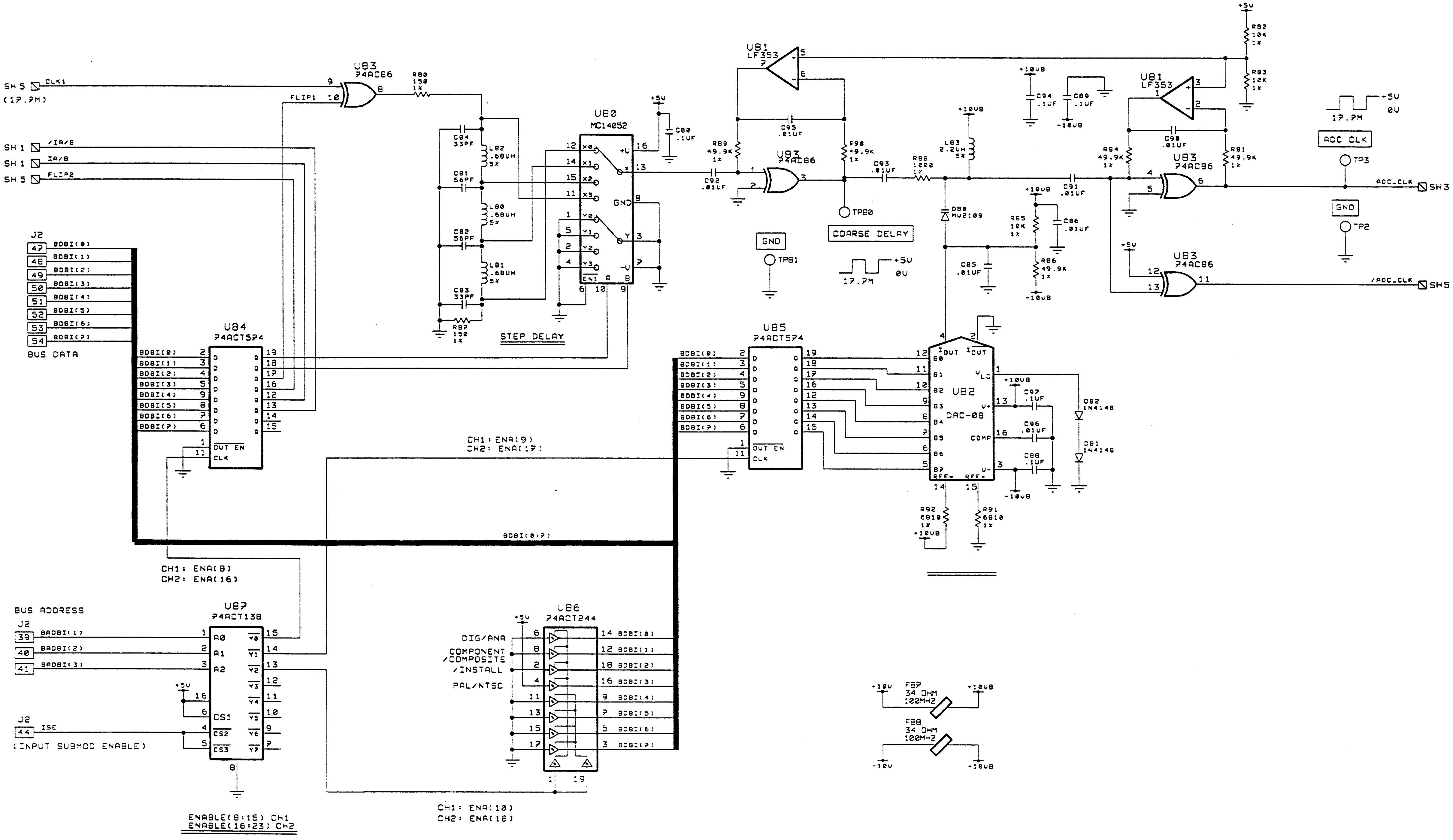

-7.81mV
-0.500V
+4.300dB
-1.65V
ADC INP
TP41
+5V
FB5
34 OHM
100MHZ
SH2
FILTERED VIDEO
R51
121
1%
C48
75PF 1%
L40
0.80-1.20UH
C47
3PF
±.5PF
C49
75PF
1%
NOISE FILTER
U43
TDC1038
VCC
NC
VIN
AGND
RT
RM
RB
CONV
VEE
NLINV
NVINV
LSB D0
D1
D2
D3
D4
D5
D6
MSB D7
DGND
C51
.1UF
C52
5.6UF/
20V
C50
5.6UF/
20V
VDADC(0)
VDADC(1)
VDADC(2)
VDADC(3)
VDADC(4)
VDADC(5)
VDADC(6)
VDADC(7)
VDADC(0:7)
SH5
(VIDEO DATA TO LATCH)
FB6
34 OHM
100MHZ
-5.2V
C53
.1UF
C54
5.6UF/
20V
ANALOG TO DIGITAL CONVERTER
GND
TP42
SH
CLAMP FEEDBACK
+10VA
C44
.1UF
C77
.1UF
-10VA
C41
.1UF
C40
.1UF
U42
LF353
C43
2200
J40
CLAMP DEFEAT
CONNECT 1-2 OR 2-3
TO DEFEAT CLAMP
U40
CA3080
U41
HB9120-00
OUT
IN
GND
R41
49.9K
1%
R42
49.9K
1%
-8V SAMPLE
-10V HOLD
Q40
2N4265
BACKPORCH CLAMP
J1
S6
CPADC
C42
100PF 1%
+5V HOLD
0V SAMPLE
LEVEL SHIFT
-0.50V NOM
R49
1500
1%
R43
200
R50
392
1%
BACKPORCH CLAMP REF
-2.000V
ADC REF
TP40
ADC REF VOLT
R44
3320
1%
+2.5V
R45
2000
R48
11.5K
1%
R47
10K
1%
C45
5.6UF/
20V
ADJ
D40
LM336
-2.5
C46
.1UF
U42
LF353
R46
221
1%
Q41
2N4126
-5.2VA
ADC REFERENCE
SH4
ADC_CLK

GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
PAL COMPOSITE
INPUT SUBMODULE
ADC

SIZE	DRAWING NO.	REV
D	10-064735-00	A1
SCALE: NONE	SHEET 3 OF 9	

SEE SHEET 1 FOR REVISIONS


8
7
6
5
4
3
2
1
D
C
B
A
SH 5 CLK1
(17.7M)
U83
74AC86
9
10
8
FLIP1
R80
150
1%
SH 1 /IA/B
SH 1 IA/B
SH 5 FLIP2
C84
33PF
L82
.68UH
5%
C81
56PF
L80
.68UH
5%
C82
56PF
L81
.68UH
5%
C83
33PF
R87
150
1%
STEP DELAY
U80
MC14052
+5V
C80
.1UF
X0
X1
X2
X3
Y0
Y1
Y2
Y3
+V
X
GND
Y
-V
EN1
A
B
12
14
15
11
1
5
2
4
16
13
8
3
7
6
10
9
J2
47 BDBI(0)
48 BDBI(1)
49 BDBI(2)
50 BDBI(3)
51 BDBI(4)
52 BDBI(5)
53 BDBI(6)
54 BDBI(7)
BUS DATA
U84
74ACT574
BDBI(0) 2
BDBI(1) 3
BDBI(2) 4
BDBI(3) 5
BDBI(4) 9
BDBI(5) 8
BDBI(6) 7
BDBI(7) 6
D
Q
19
18
17
16
12
13
14
15
1 OUT EN
11 CLK
U81
LF353
5
6
7
C95
.01UF
R89
49.9K
1%
R90
49.9K
1%
C92
.01UF
U83
74AC86
1
2
3
TP80
COARSE DELAY
C93
.01UF
R88
1000
1%
GND
TP81
+5V
0V
17.7M
+10VB
L83
2.2UH
5%
D80
MV2109
C85
.01UF
C94
.1UF
C89
.1UF
-10VB
R85
10K
1%
C86
.01UF
R86
49.9K
1%
C91
.01UF
+5V
R82
10K
1%
R83
10K
1%
U81
LF353
1
2
3
C98
.01UF
R84
49.9K
1%
R81
49.9K
1%
U83
74AC86
4
5
6
ADC_CLK SH3
U83
74AC86
12
13
11
/ADC_CLK SH5
17.7M
+5V
0V
ADC CLK
TP3
GND
TP2
U85
74ACT574
BDBI(0) 2
BDBI(1) 3
BDBI(2) 4
BDBI(3) 5
BDBI(4) 9
BDBI(5) 8
BDBI(6) 7
BDBI(7) 6
19
18
17
16
12
13
14
15
1 OUT EN
11 CLK
U82
DAC-08
IOUT
$\overline{\text{IOUT}}$
B0
B1
B2
B3
B4
B5
B6
B7
VLC
V+
COMP
V-
REF+
REF-
4
2
12
11
10
9
8
7
6
5
1
13
16
3
14
15
+10VB
C97
.1UF
C96
.01UF
C88
.1UF
-10VB
D82
1N4148
D81
1N4148
R92
6810
1%
+10VB
R91
6810
1%
CH1: ENA(9)
CH2: ENA(17)
BDBI(0:7)
CH1: ENA(8)
CH2: ENA(16)
BUS ADDRESS
J2
39 BADBI(1)
40 BADBI(2)
41 BADBI(3)
U87
74ACT138
1 A0
2 A1
3 A2
+5V
16
6 CS1
4 $\overline{\text{CS2}}$
5 $\overline{\text{CS3}}$
$\overline{\text{Y0}}$ 15
$\overline{\text{Y1}}$ 14
$\overline{\text{Y2}}$ 13
$\overline{\text{Y3}}$ 12
$\overline{\text{Y4}}$ 11
$\overline{\text{Y5}}$ 10
$\overline{\text{Y6}}$ 9
$\overline{\text{Y7}}$ 7
8
J2
44 ISE
(INPUT SUBMOD ENABLE)
ENABLE(8:15) CH1
ENABLE(16:23) CH2
U86
74ACT244
+5V
DIG/ANA 6
COMPONENT /COMPOSITE /INSTALL 8
2
PAL/NTSC 4
11
13
15
17
14 BDBI(0)
12 BDBI(1)
18 BDBI(2)
16 BDBI(3)
9 BDBI(4)
7 BDBI(5)
5 BDBI(6)
3 BDBI(7)
1
19
CH1: ENA(10)
CH2: ENA(18)
+10V
FB7
34 OHM
100MHZ
+10VB
FB8
34 OHM
100MHZ
-10V
-10VB

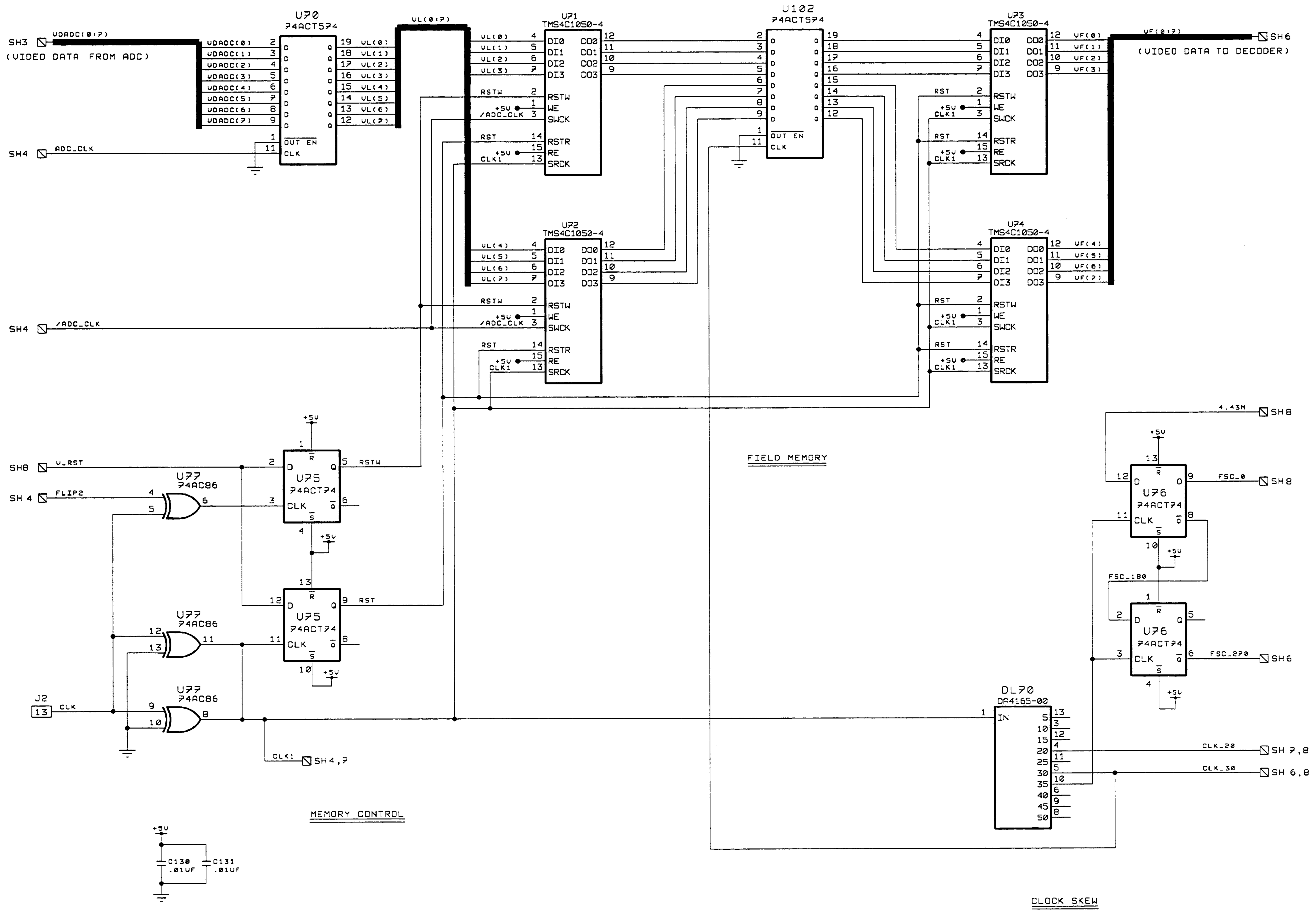
GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
PAL COMPOSITE
INPUT SUBMODULE

SIZE D
DRAWING NO. 10-064735-00
REV A1

SCALE: NONE
SHEET 4 OF 9

SEE SHEET 1 FOR REVISIONS

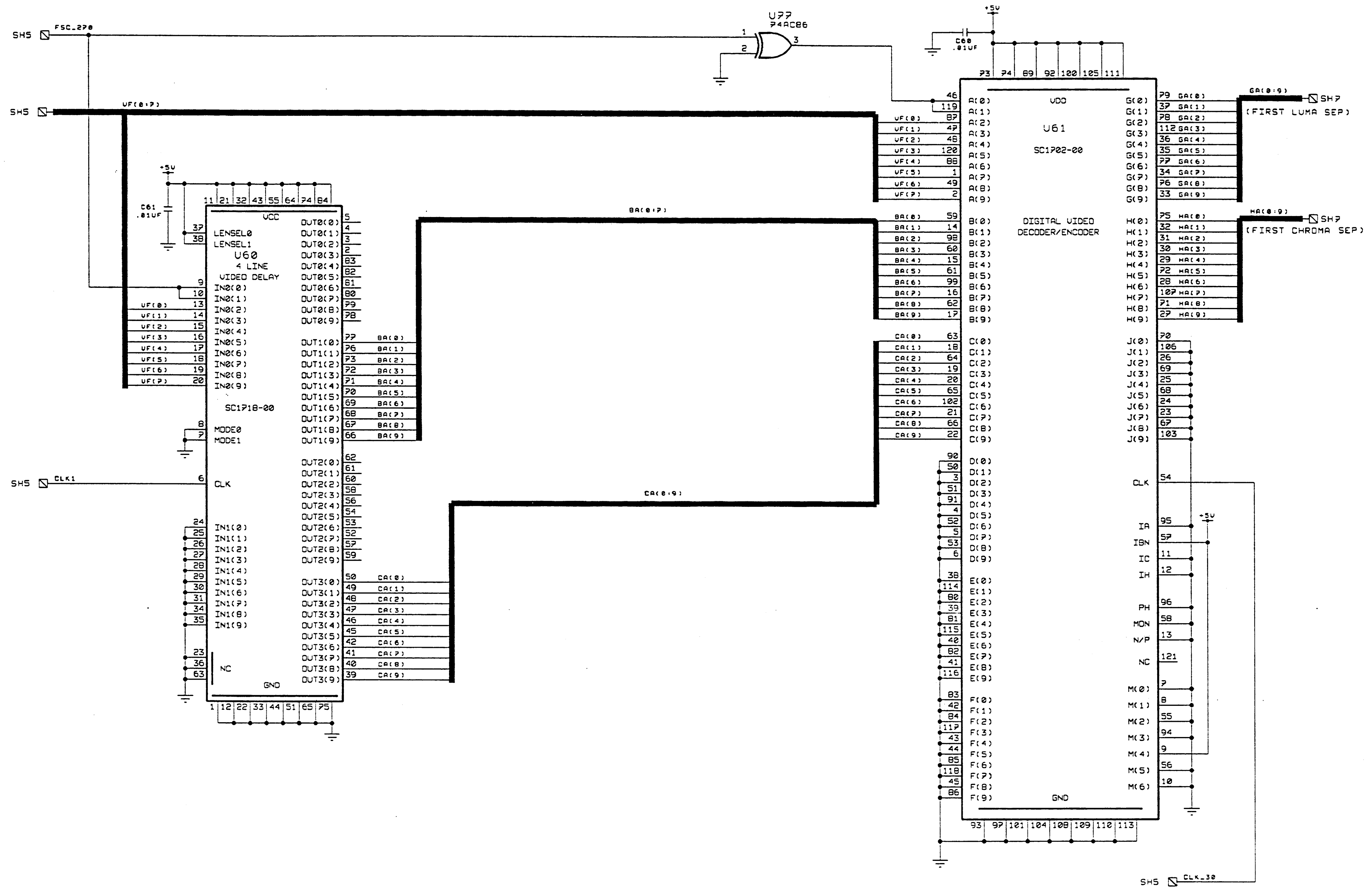

SH3
VDADC(0:7)
(VIDEO DATA FROM ADC)
SH4
ADC_CLK
U70
74ACT574
VDADC(0)
VDADC(1)
VDADC(2)
VDADC(3)
VDADC(4)
VDADC(5)
VDADC(6)
VDADC(7)
OUT EN
CLK
VL(0:7)
VL(0)
VL(1)
VL(2)
VL(3)
VL(4)
VL(5)
VL(6)
VL(7)
U71
TMS4C1050-4
U72
TMS4C1050-4
DI0
DI1
DI2
DI3
DO0
DO1
DO2
DO3
RSTW
WE
SWCK
RSTR
RE
SRCK
RST
+5V
/ADC_CLK
CLK1
SH4
/ADC_CLK
U102
74ACT574
U73
TMS4C1050-4
U74
TMS4C1050-4
VF(0:7)
VF(0)
VF(1)
VF(2)
VF(3)
VF(4)
VF(5)
VF(6)
VF(7)
SH6
(VIDEO DATA TO DECODER)
FIELD MEMORY
SH8
V_RST
SH 4
FLIP2
U77
74AC86
U75
74ACT74
D
Q
CLK
R
S
RSTW
RST
J2
13
CLK
CLK1
SH4,7
MEMORY CONTROL
+5V
C130
.01UF
C131
.01UF
4.43M
SH8
U76
74ACT74
FSC_0
FSC_180
FSC_270
SH6
DL70
DA4165-00
IN
5
10
15
20
25
30
35
40
45
50
CLK_20
SH 7,8
CLK_30
SH 6,8
CLOCK SKEW

GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
PAL COMPOSITE
INPUT SUBMODULE
FIELD DELAY

SIZE	DRAWING NO.	REV
D	10-064735-00	A1
SCALE: NONE	SHEET 5 OF 9	

SEE SHEET 1 FOR REVISIONS


SH5 FSC_270
U77
74AC86
SH5 VF(0:7)
+5V
C61
.01UF
U60
4 LINE
VIDEO DELAY
SC1718-00
LENSEL0
LENSEL1
VCC
IN0(0)–IN0(9)
MODE0
MODE1
CLK
IN1(0)–IN1(9)
NC
GND
OUT0(0)–OUT0(9)
OUT1(0)–OUT1(9)
OUT2(0)–OUT2(9)
OUT3(0)–OUT3(9)
BA(0:7)
CA(0:9)
SH5 CLK1
+5V
C60
.01UF
U61
SC1702-00
DIGITAL VIDEO
DECODER/ENCODER
VDD
A(0)–A(9)
B(0)–B(9)
C(0)–C(9)
D(0)–D(9)
E(0)–E(9)
F(0)–F(9)
G(0)–G(9)
H(0)–H(9)
J(0)–J(9)
CLK
IA
IBN
IC
IH
PH
MON
N/P
NC
M(0)–M(6)
GND
GA(0:9)
SH7
(FIRST LUMA SEP)
HA(0:9)
SH7
(FIRST CHROMA SEP)
SH5 CLK_30

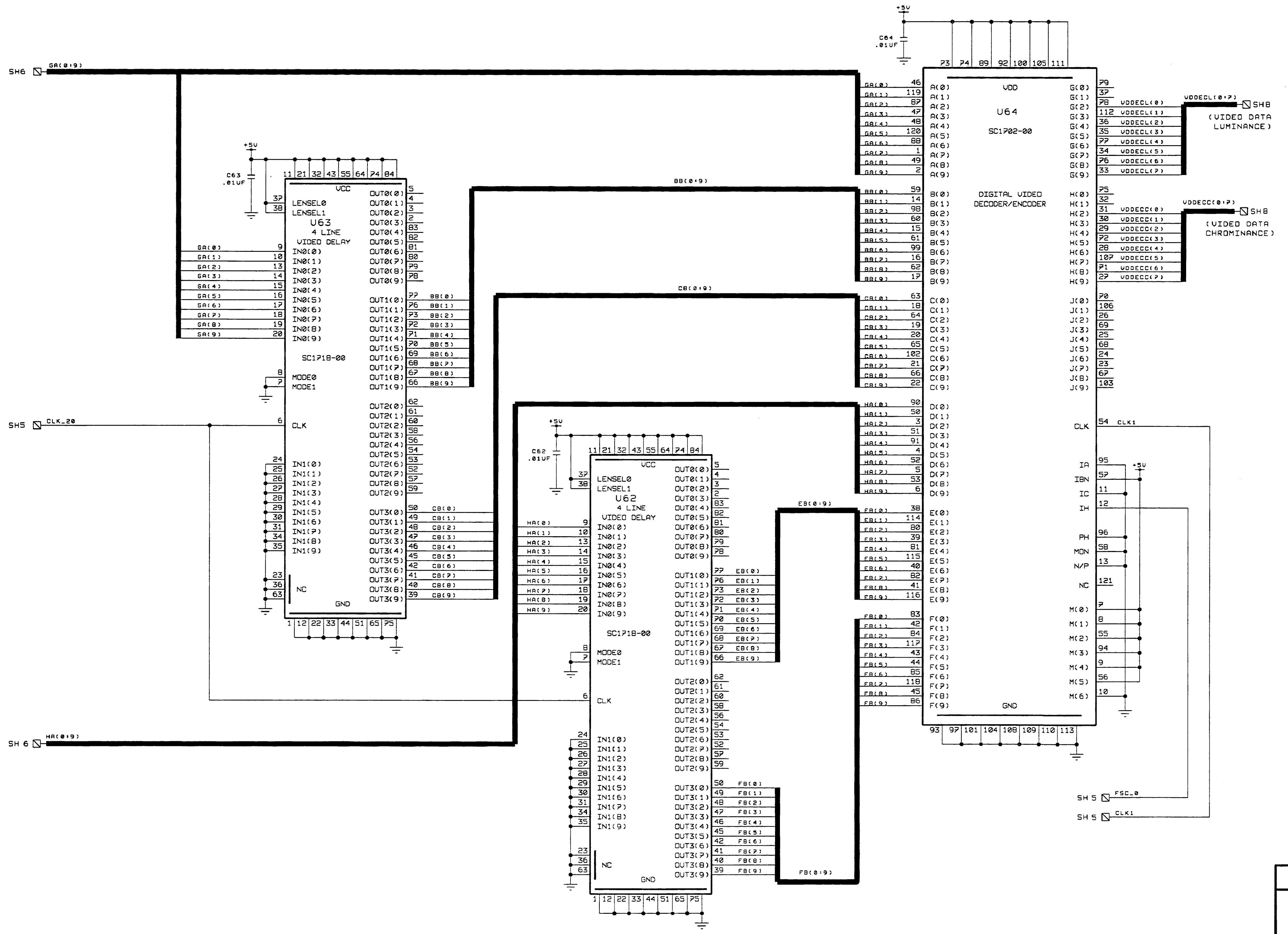
GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
PAL COMPOSITE
INPUT SUBMODULE
DECODER SHEET 1

SIZE D DRAWING NO. 10-064735-00 REV A1

SCALE: NONE SHEET 6 OF 9

SEE SHEET 1 FOR REVISIONS

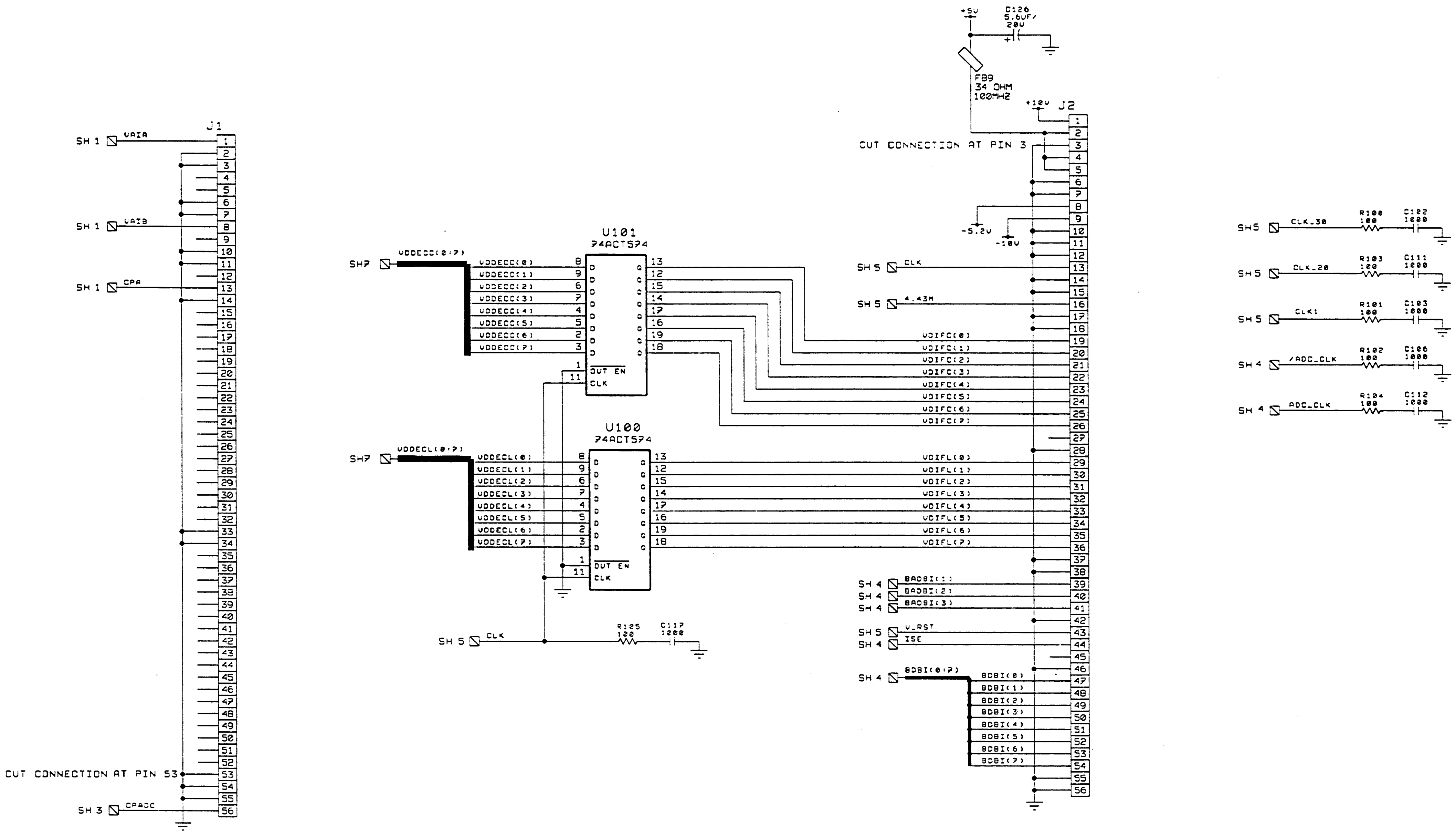

SH6 GA(0:9)
SH5 CLK_20
SH 6 HA(0:9)
BB(0:9)
CB(0:9)
EB(0:9)
FB(0:9)
+5V
C63 .01UF
C62 .01UF
C64 .01UF
U63
4 LINE VIDEO DELAY
SC1718-00
LENSEL0
LENSEL1
MODE0
MODE1
CLK
NC
VCC
GND
U62
4 LINE VIDEO DELAY
SC1718-00
U64
SC1702-00
DIGITAL VIDEO DECODER/ENCODER
VDD
IA
IBN
IC
IH
PH
MON
N/P
VDDECL(0:7) SH8
(VIDEO DATA LUMINANCE)
VDDECC(0:7) SH8
(VIDEO DATA CHROMINANCE)
CLK1
SH 5 FSC_0
SH 5 CLK1

GRASS VALLEY GROUP

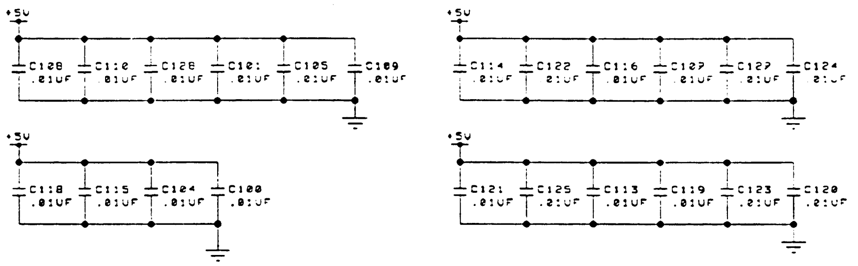
SCHEMATIC DIAGRAM
PAL COMPOSITE
INPUT SUBMODULE
DECODER SHEET 2

SIZE D
DRAWING NO. 10-064735-00
REV A1
SCALE: NONE
SHEET 7 OF 9

SEE SHEET 1 FOR REVISIONS


J1
SH 1 VAIA
SH 1 VAIB
SH 1 CPA
CUT CONNECTION AT PIN 53
SH 3 CPADC
+5V
C126 5.6UF/ 20V
FB9 34 OHM 100MHZ
+10V
J2
CUT CONNECTION AT PIN 3
-5.2V
-10V
SH 5 CLK
SH 5 4.43M
U101 74ACT574
SH7 VDDECC(0:7)
VDDECC(0)
VDDECC(1)
VDDECC(2)
VDDECC(3)
VDDECC(4)
VDDECC(5)
VDDECC(6)
VDDECC(7)
OUT EN
CLK
VDIFC(0)
VDIFC(1)
VDIFC(2)
VDIFC(3)
VDIFC(4)
VDIFC(5)
VDIFC(6)
VDIFC(7)
U100 74ACT574
SH7 VDDECL(0:7)
VDDECL(0)
VDDECL(1)
VDDECL(2)
VDDECL(3)
VDDECL(4)
VDDECL(5)
VDDECL(6)
VDDECL(7)
VDIFL(0)
VDIFL(1)
VDIFL(2)
VDIFL(3)
VDIFL(4)
VDIFL(5)
VDIFL(6)
VDIFL(7)
SH 5 CLK
R125 120
C117 1200
SH 4 BADBI(1)
SH 4 BADBI(2)
SH 4 BADBI(3)
SH 5 V_RST
SH 4 ISE
SH 4 BDBI(0:7)
BDBI(0)
BDBI(1)
BDBI(2)
BDBI(3)
BDBI(4)
BDBI(5)
BDBI(6)
BDBI(7)
SH5 CLK_30
R100 100
C102 1000
SH5 CLK_20
R103 120
C111 1000
SH5 CLK1
R101 100
C103 1000
SH 4 /ADC_CLK
R102 100
C106 1000
SH 4 ADC_CLK
R104 100
C112 1000

REF. NO.	IC TYPE	+5V	GND	+10VA	-10VA	+10VB	-10VB
U42	LF353			8	4		
U81	LF353					8	4
U70,84,85, 100,101	74ACT574	20	10				
U86	74ACT244	20	10				
U71,72,73,74	TMS4C1050	16	8				
U77,83	74AC86	14	7				
U75,76	74ACT74	14	7				
DL70	DA4165-00	14	7				


+5V
C108 .01UF
C110 .01UF
C126 .01UF
C101 .01UF
C105 .01UF
C109 .01UF
C114 .01UF
C122 .01UF
C116 .01UF
C107 .01UF
C127 .01UF
C124 .01UF
C118 .01UF
C115 .01UF
C104 .01UF
C100 .01UF
C121 .01UF
C125 .01UF
C113 .01UF
C119 .01UF
C123 .01UF
C120 .01UF

GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
PAL COMPOSITE
INPUT SUBMODULE
I/O CONNECTIONS

SIZE D DRAWING NO. 10-064735-00 REV A1
SCALE: NONE SHEET 8 OF 9

SIGNAL NAME	PAGE NO.	SIGNAL NAME	PAGE NO.	SIGNAL NAME	PAGE NO.	SIGNAL NAME	PAGE NO.
+10V	1,4,8	+10VA	1,2,3	+10VB	4		
+5V	1,3,4,5,6,7,8	-10V	1,4,8	-10VA	1,2,3	-10VB	4
-5.2V	3,8	-5.2VA	3	/ADC_CLK	4,5,8	/IA/B	1,4
4.43M	5,8	ADC_CLK	3,4,5,8	BA(0)	6	BA(1)	6
BA(2)	6	BA(3)	6	BA(4)	6	BA(5)	6
BA(6)	6	BA(7)	6	BA(8)	6	BA(9)	6
BADBI(1)	4,8	BADBI(2)	4,8	BADBI(3)	4,8	BB(0)	7
BB(1)	7	BB(2)	7	BB(3)	7	BB(4)	7
BB(5)	7	BB(6)	7	BB(7)	7	BB(8)	7
BB(9)	7	BDBI(0)	4,8	BDBI(1)	4,8	BDBI(2)	4,8
BDBI(3)	4,8	BDBI(4)	4,8	BDBI(5)	4,8	BDBI(6)	4,8
BDBI(7)	4,8	CA(0)	6	CA(1)	6	CA(2)	6
CA(3)	6	CA(4)	6	CA(5)	6	CA(6)	6
CA(7)	6	CA(8)	6	CA(9)	6	CB(0)	7
CB(1)	7	CB(2)	7	CB(3)	7	CB(4)	7
CB(5)	7	CB(6)	7	CB(7)	7	CB(8)	7
CB(9)	7	CLAMP FEEDBACK	2,3	CLK	5,8	CLK1	4,5,6,7,8
CLK_20	5,7,8	CLK_30	5,6,8	CPA	1,8	CPADC	3,8
EB(0)	7	EB(1)	7	EB(2)	7	EB(3)	7
EB(4)	7	EB(5)	7	EB(6)	7	EB(7)	7
EB(8)	7	EB(9)	7	ENA(10)	4	ENA(8)	4
ENA(9)	4	FB(0)	7	FB(1)	7	FB(2)	7
FB(3)	7	FB(4)	7	FB(5)	7	FB(6)	7
FB(7)	7	FB(8)	7	FB(9)	7	FILTERED VIDEO	2,3
FLIP1	4	FLIP2	4,5	FSC_0	5,7	FSC_180	5
FSC_270	5,6	GA(0)	6,7	GA(1)	6,7	GA(2)	6,7
GA(3)	6,7	GA(4)	6,7	GA(5)	6,7	GA(6)	6,7
GA(7)	6,7	GA(8)	6,7	GA(9)	6,7		
GND	1,2,3,4,5,6,7,8,9			HA(0)	6,7	HA(1)	6,7
HA(2)	6,7	HA(3)	6,7	HA(4)	6,7	HA(5)	6,7
HA(6)	6,7	HA(7)	6,7	HA(8)	6,7	HA(9)	6,7
IA/B	1,4	ISE	4,8	RST	5	RSTW	5
SELECTED VIDEO	1,2	VAIA	1,8	VAIB	1,8	VDADC(0)	3,5
VDADC(1)	3,5	VDADC(2)	3,5	VDADC(3)	3,5	VDADC(4)	3,5
VDADC(5)	3,5	VDADC(6)	3,5	VDADC(7)	3,5	VDDECC(0)	7,8
VDDECC(1)	7,8	VDDECC(2)	7,8	VDDECC(3)	7,8	VDDECC(4)	7,8
VDDECC(5)	7,8	VDDECC(6)	7,8	VDDECC(7)	7,8	VDDECL(0)	7,8
VDDECL(1)	7,8	VDDECL(2)	7,8	VDDECL(3)	7,8	VDDECL(4)	7,8
VDDECL(5)	7,8	VDDECL(6)	7,8	VDDECL(7)	7,8	VDIFC(0)	8
VDIFC(1)	8	VDIFC(2)	8	VDIFC(3)	8	VDIFC(4)	8
VDIFC(5)	8	VDIFC(6)	8	VDIFC(7)	8	VDIFL(0)	8
VDIFL(1)	8	VDIFL(2)	8	VDIFL(3)	8	VDIFL(4)	8
VDIFL(5)	8	VDIFL(6)	8	VDIFL(7)	8	VF(0)	5,6
VF(1)	5,6	VF(2)	5,6	VF(3)	5,6	VF(4)	5,6
VF(5)	5,6	VF(6)	5,6	VF(7)	5,6	VL(0)	5
VL(1)	5	VL(2)	5	VL(3)	5	VL(4)	5
VL(5)	5	VL(6)	5	VL(7)	5	V_RST	5,8

REF DESG	PAGE	REF DESG	PAGE	REF DESG	PAGE	REF DESG	PAGE	REF DESG	PAGE	REF DESG	PAGE	REF DESG	PAGE
C2	1	C3	1	C4	1	C5	1	C6	1	C7	1		
C20	2	C21	2	C22	2	C23	2	C24	2	C25	2	C26	2
C27	2	C28	2	C29	2	C30	2	C31	2	C32	2	C33	2
C34	2	C35	2	C36	2	C37	2	C38	2	C40	3	C41	3
C42	3	C43	3	C44	3	C45	3	C46	3	C47	3	C48	3
C49	3	C50	3	C51	3	C52	3	C53	3	C54	3	C60	6
C61	6	C62	7	C63	7	C64	7	C77	3	C80	4	C81	4
C82	4	C83	4	C84	4	C85	4	C86	4	C88	4	C89	4
C90	4	C91	4	C92	4	C93	4	C94	4	C95	4	C96	4
C97	4	C100	8	C101	8	C102	8	C103	8	C104	8	C105	8
C106	8	C107	8	C108	8	C109	8	C110	8	C111	8	C112	8
C113	8	C114	8	C115	8	C116	8	C117	8	C118	8	C119	8
C120	8	C121	8	C122	8	C123	8	C124	8	C125	8	C126	8
C127	8	C128	8	C129	1	C130	5	C131	5	D1	1	D2	1
D3	1	D4	1	D40	3	D80	4	D81	4	D82	4	DL70	5
FB1	1	FB2	1	FB3	1	FB4	1	FB5	3	FB6	3		
FB7	4	FB8	4	FB9	8	J1	8	J2	8	J40	3	L20	2
L21	2	L22	2	L23	2	L24	2	L40	3	L80	4	L81	4
L82	4	L83	4	Q1	1	Q2	1						
Q40	3	Q41	3	R1	1	R2	1	R3	1	R4	1	R6	1
R7	1	R8	1	R9	1	R10	1	R11	1	R12	1	R13	1
R14	1	R20	2	R21	2	R22	2	R23	2	R24	2	R25	2
R26	2	R27	2	R28	2	R29	2	R30	2	R31	2	R32	2
R33	2	R34	2	R40	1	R41	3	R42	3	R43	3	R44	3
R45	3	R46	3	R47	3	R48	3	R49	3	R50	3	R51	3
R80	4	R81	4	R82	4	R83	4	R84	4	R85	4	R86	4
R87	4	R88	4	R89	4	R90	4	R91	4	R92	4	R100	8
R101	8	R102	8	R103	8	R104	8	R105	8	R106	2	TP2	4
TP3	4	TP20	2	TP21	2	TP22	2	TP23	2	TP24	2	TP25	2
TP40	3	TP41	3	TP42	3	TP80	4	TP81	4	U1	1	U2	1
U3	1	U4	1	U20	2	U21	2	U22	2	U40	3	U41	3
U42	3	U43	3	U60	6	U61	6	U62	7	U63	7	U64	7
U70	5	U71	5	U72	5	U73	5	U74	5	U75	5	U76	5
U77	5,6	U80	4	U81	4	U82	4	U83	4	U84	4	U85	4
U86	4	U87	4	U100	8	U101	8	U102	5				

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REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC

SEE SHEET 1 FOR REVISIONS.

GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA *A TEKTRONIX COMPANY*

DRAWN JP/MMB DATE 06/29/90
ENGINEER JP/MMB
CHECKED DATE
APPROVED MMB DATE 08/08/90
PILOT RUN RLSE MMB DATE 08/08/90
ENGRG RLSE DATE

SCHEMATIC DIAGRAM
PAL COMPOSITE INPUT
SUBMODULE
CROSS REFERENCE

SIZE D
DRAWING NO. 10-064735-00
B1
SCALE: NONE
SHEET 9 OF 9

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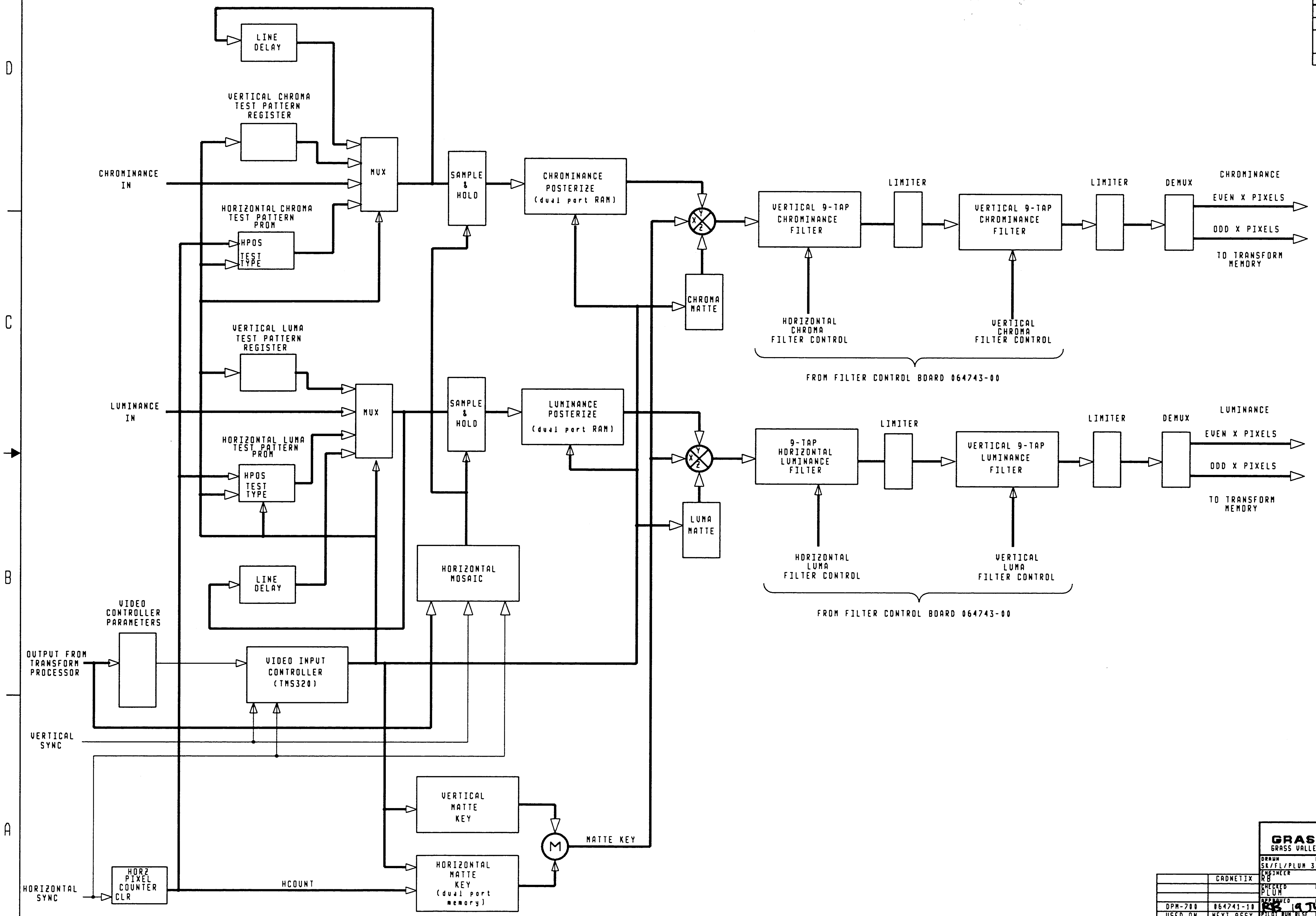
REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
A1	2401 2406	PLUM	3JUNE 1991	PLUM	—		—

PILOT RUN RELEASE -00/-10


LINE DELAY
VERTICAL CHROMA TEST PATTERN REGISTER
MUX
CHROMINANCE IN
HORIZONTAL CHROMA TEST PATTERN PROM
HPOS
TEST TYPE
SAMPLE & HOLD
CHROMINANCE POSTERIZE (dual port RAM)
X
Y
Z
CHROMA MATTE
VERTICAL 9-TAP CHROMINANCE FILTER
LIMITER
VERTICAL 9-TAP CHROMINANCE FILTER
LIMITER
DEMUX
CHROMINANCE
EVEN X PIXELS
ODD X PIXELS
TO TRANSFORM MEMORY
HORIZONTAL CHROMA FILTER CONTROL
VERTICAL CHROMA FILTER CONTROL
FROM FILTER CONTROL BOARD 064743-00
VERTICAL LUMA TEST PATTERN REGISTER
LUMINANCE IN
MUX
HORIZONTAL LUMA TEST PATTERN PROM
HPOS
TEST TYPE
SAMPLE & HOLD
LUMINANCE POSTERIZE (dual port RAM)
LUMA MATTE
9-TAP HORIZONTAL LUMINANCE FILTER
LIMITER
VERTICAL 9-TAP LUMINANCE FILTER
LIMITER
DEMUX
LUMINANCE
EVEN X PIXELS
ODD X PIXELS
TO TRANSFORM MEMORY
HORIZONTAL LUMA FILTER CONTROL
VERTICAL LUMA FILTER CONTROL
FROM FILTER CONTROL BOARD 064743-00
LINE DELAY
HORIZONTAL MOSAIC
VIDEO CONTROLLER PARAMETERS
OUTPUT FROM TRANSFORM PROCESSOR
VIDEO INPUT CONTROLLER (TMS320)
VERTICAL SYNC
VERTICAL MATTE KEY
M
MATTE KEY
HORIZONTAL MATTE KEY (dual port memory)
HCOUNT
HORZ PIXEL COUNTER
CLR
HORIZONTAL SYNC

	CADNETIX
DPM-700	064741-10
USED ON	NEXT ASSY
APPLICATION	
DISTRIBUTION	

GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA
A TEKTRONIX COMPANY

DRAWN SK/FL/PLUM	DATE 3JUN91
ENGINEER RB	
CHECKED PLUM	DATE
APPROVED RB	DATE 19 JUN 9
PILOT RUN RLSE	DATE
ENGRG RLSE	DATE

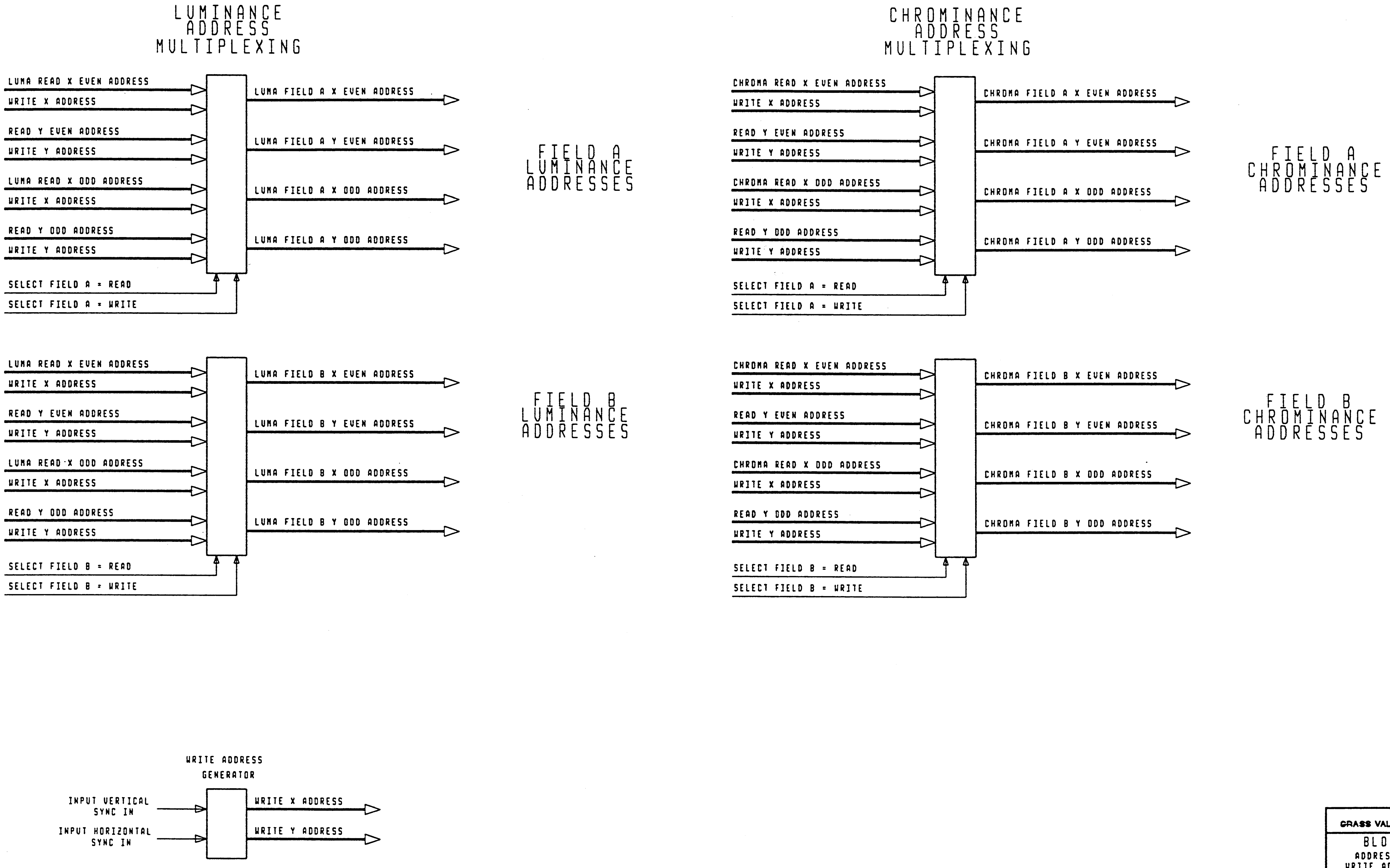
BLOCK DIAGRAM

PRE-TANSFORM PROCESSIONG

SIZE	DRAWING NO.	REV
D	00-064741-00/10	A1

SCALE: NONE
SHEET 1 OF 6

SEE SHEET ONE FOR REVISIONS

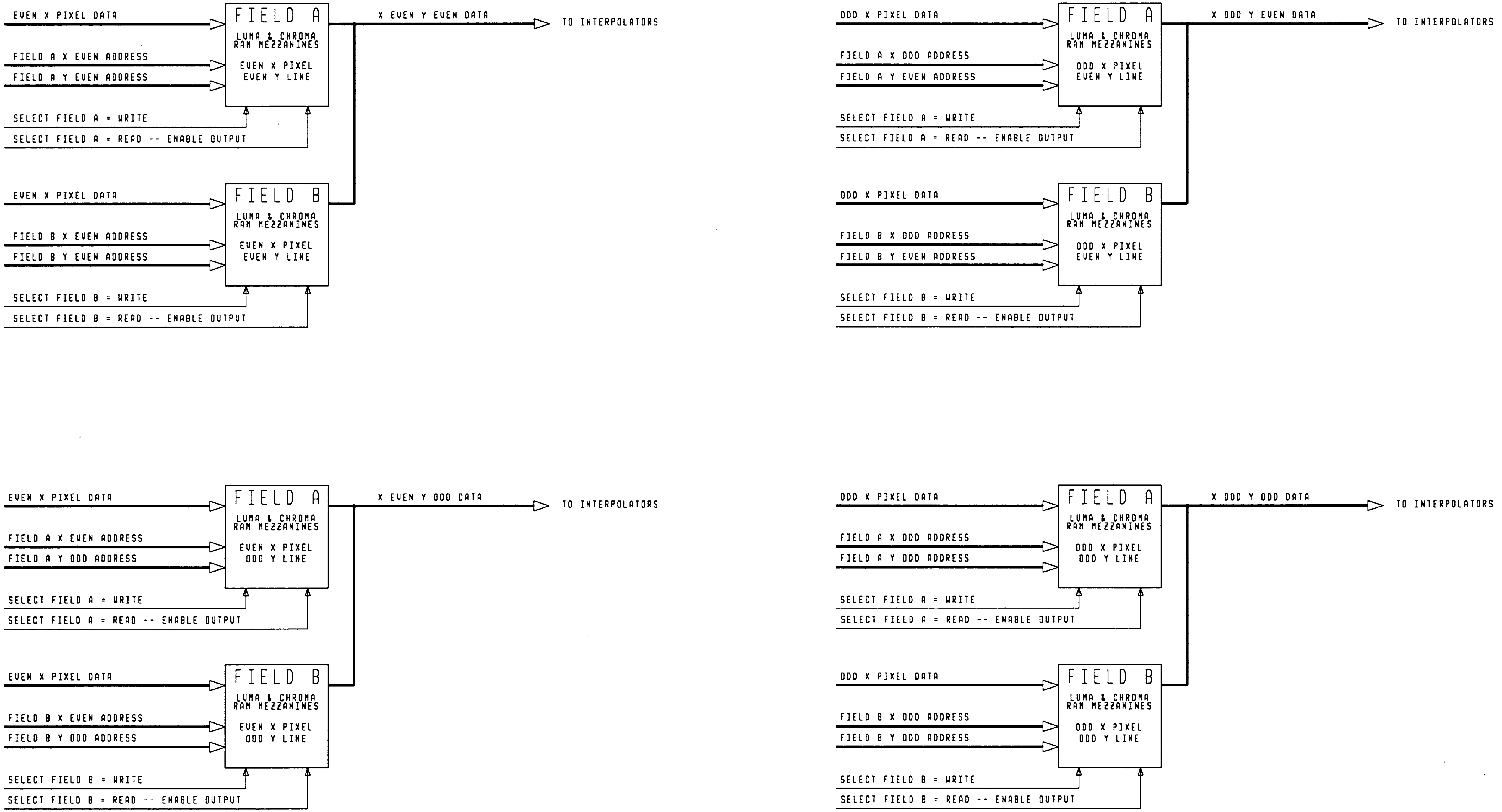

LUMINANCE ADDRESS MULTIPLEXING
LUMA READ X EVEN ADDRESS
WRITE X ADDRESS
READ Y EVEN ADDRESS
WRITE Y ADDRESS
LUMA READ X ODD ADDRESS
WRITE X ADDRESS
READ Y ODD ADDRESS
WRITE Y ADDRESS
SELECT FIELD A = READ
SELECT FIELD A = WRITE
LUMA FIELD A X EVEN ADDRESS
LUMA FIELD A Y EVEN ADDRESS
LUMA FIELD A X ODD ADDRESS
LUMA FIELD A Y ODD ADDRESS
FIELD A LUMINANCE ADDRESSES
LUMA READ X EVEN ADDRESS
WRITE X ADDRESS
READ Y EVEN ADDRESS
WRITE Y ADDRESS
LUMA READ X ODD ADDRESS
WRITE X ADDRESS
READ Y ODD ADDRESS
WRITE Y ADDRESS
SELECT FIELD B = READ
SELECT FIELD B = WRITE
LUMA FIELD B X EVEN ADDRESS
LUMA FIELD B Y EVEN ADDRESS
LUMA FIELD B X ODD ADDRESS
LUMA FIELD B Y ODD ADDRESS
FIELD B LUMINANCE ADDRESSES
CHROMINANCE ADDRESS MULTIPLEXING
CHROMA READ X EVEN ADDRESS
WRITE X ADDRESS
READ Y EVEN ADDRESS
WRITE Y ADDRESS
CHROMA READ X ODD ADDRESS
WRITE X ADDRESS
READ Y ODD ADDRESS
WRITE Y ADDRESS
SELECT FIELD A = READ
SELECT FIELD A = WRITE
CHROMA FIELD A X EVEN ADDRESS
CHROMA FIELD A Y EVEN ADDRESS
CHROMA FIELD A X ODD ADDRESS
CHROMA FIELD A Y ODD ADDRESS
FIELD A CHROMINANCE ADDRESSES
CHROMA READ X EVEN ADDRESS
WRITE X ADDRESS
READ Y EVEN ADDRESS
WRITE Y ADDRESS
CHROMA READ X ODD ADDRESS
WRITE X ADDRESS
READ Y ODD ADDRESS
WRITE Y ADDRESS
SELECT FIELD B = READ
SELECT FIELD B = WRITE
CHROMA FIELD B X EVEN ADDRESS
CHROMA FIELD B Y EVEN ADDRESS
CHROMA FIELD B X ODD ADDRESS
CHROMA FIELD B Y ODD ADDRESS
FIELD B CHROMINANCE ADDRESSES
WRITE ADDRESS GENERATOR
INPUT VERTICAL SYNC IN
INPUT HORIZONTAL SYNC IN
WRITE X ADDRESS
WRITE Y ADDRESS

GRASS VALLEY GROUP

BLOCK DIAGRAM
ADDRESS MULTIPLEXING
WRITE ADDRESS GENERATOR

SIZE	DRAWING NO.	REV
D	00-064741-00/10	A1
SCALE: NONE	SHEET 2 OF 6	

SEE SHEET ONE FOR REVISIONS

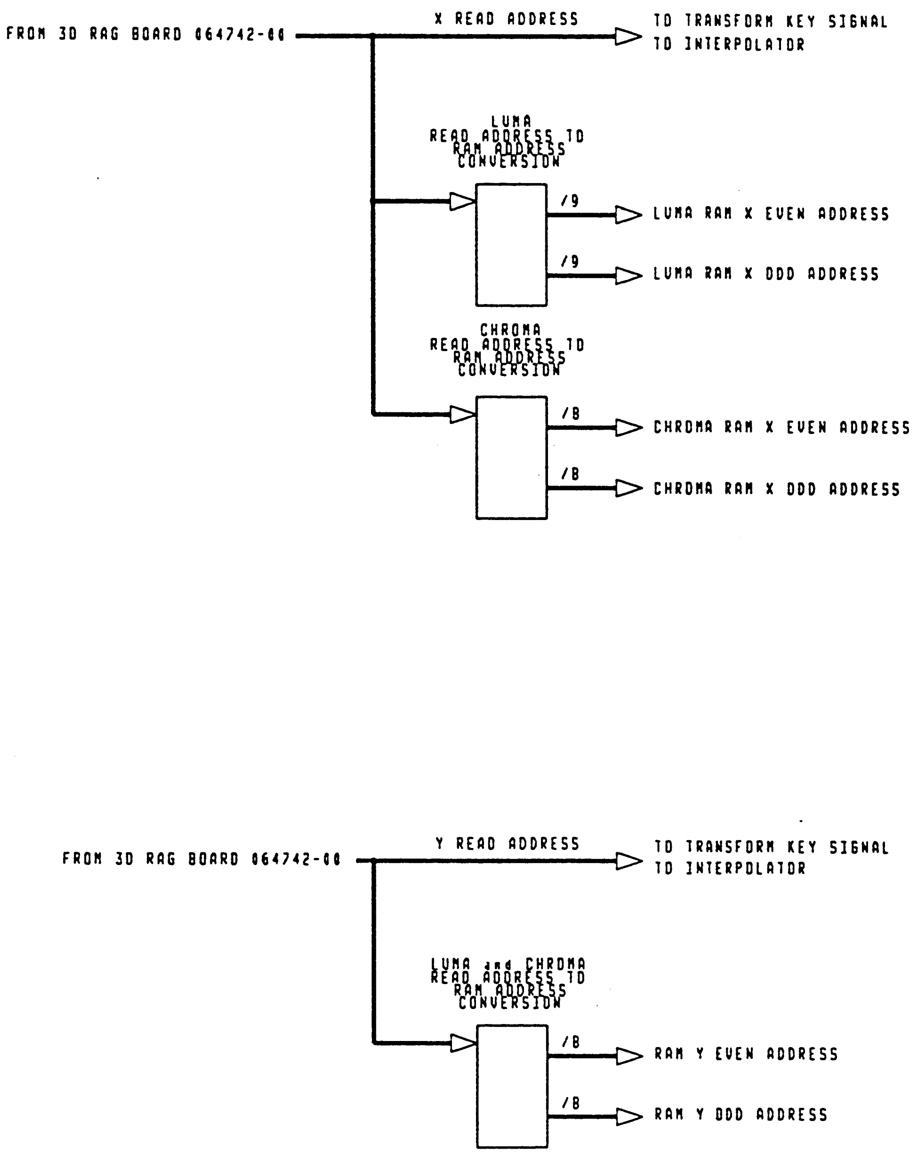

EVEN X PIXEL DATA
FIELD A X EVEN ADDRESS
FIELD A Y EVEN ADDRESS
SELECT FIELD A = WRITE
SELECT FIELD A = READ -- ENABLE OUTPUT
FIELD A
LUMA & CHROMA RAM MEZZANINES
EVEN X PIXEL EVEN Y LINE
X EVEN Y EVEN DATA
TO INTERPOLATORS
EVEN X PIXEL DATA
FIELD B X EVEN ADDRESS
FIELD B Y EVEN ADDRESS
SELECT FIELD B = WRITE
SELECT FIELD B = READ -- ENABLE OUTPUT
FIELD B
LUMA & CHROMA RAM MEZZANINES
EVEN X PIXEL EVEN Y LINE
ODD X PIXEL DATA
FIELD A X ODD ADDRESS
FIELD A Y EVEN ADDRESS
SELECT FIELD A = WRITE
SELECT FIELD A = READ -- ENABLE OUTPUT
FIELD A
LUMA & CHROMA RAM MEZZANINES
ODD X PIXEL EVEN Y LINE
X ODD Y EVEN DATA
TO INTERPOLATORS
ODD X PIXEL DATA
FIELD B X ODD ADDRESS
FIELD B Y EVEN ADDRESS
SELECT FIELD B = WRITE
SELECT FIELD B = READ -- ENABLE OUTPUT
FIELD B
LUMA & CHROMA RAM MEZZANINES
ODD X PIXEL EVEN Y LINE
EVEN X PIXEL DATA
FIELD A X EVEN ADDRESS
FIELD A Y ODD ADDRESS
SELECT FIELD A = WRITE
SELECT FIELD A = READ -- ENABLE OUTPUT
FIELD A
LUMA & CHROMA RAM MEZZANINES
EVEN X PIXEL ODD Y LINE
X EVEN Y ODD DATA
TO INTERPOLATORS
EVEN X PIXEL DATA
FIELD B X EVEN ADDRESS
FIELD B Y ODD ADDRESS
SELECT FIELD B = WRITE
SELECT FIELD B = READ -- ENABLE OUTPUT
FIELD B
LUMA & CHROMA RAM MEZZANINES
EVEN X PIXEL ODD Y LINE
ODD X PIXEL DATA
FIELD A X ODD ADDRESS
FIELD A Y ODD ADDRESS
SELECT FIELD A = WRITE
SELECT FIELD A = READ -- ENABLE OUTPUT
FIELD A
LUMA & CHROMA RAM MEZZANINES
ODD X PIXEL ODD Y LINE
X ODD Y ODD DATA
TO INTERPOLATORS
ODD X PIXEL DATA
FIELD B X ODD ADDRESS
FIELD B Y ODD ADDRESS
SELECT FIELD B = WRITE
SELECT FIELD B = READ -- ENABLE OUTPUT
FIELD B
LUMA & CHROMA RAM MEZZANINES
ODD X PIXEL ODD Y LINE

GRASS VALLEY GROUP

BLOCK DIAGRAM
TRANSFORM RAM

SIZE D
DRAWING NO. 00-064741-00/10
REV A1
SCALE: NONE
SHEET 3 OF 6

SEE SHEET ONE FOR REVISIONS


FROM 3D RAG BOARD 064742-00
X READ ADDRESS
TO TRANSFORM KEY SIGNAL
TO INTERPOLATOR
LUMA
READ ADDRESS TO
RAM ADDRESS
CONVERSION
/9
LUMA RAM X EVEN ADDRESS
/9
LUMA RAM X ODD ADDRESS
CHROMA
READ ADDRESS TO
RAM ADDRESS
CONVERSION
/8
CHROMA RAM X EVEN ADDRESS
/8
CHROMA RAM X ODD ADDRESS
FROM 3D RAG BOARD 064742-00
Y READ ADDRESS
TO TRANSFORM KEY SIGNAL
TO INTERPOLATOR
LUMA and CHROMA
READ ADDRESS TO
RAM ADDRESS
CONVERSION
/8
RAM Y EVEN ADDRESS
/8
RAM Y ODD ADDRESS

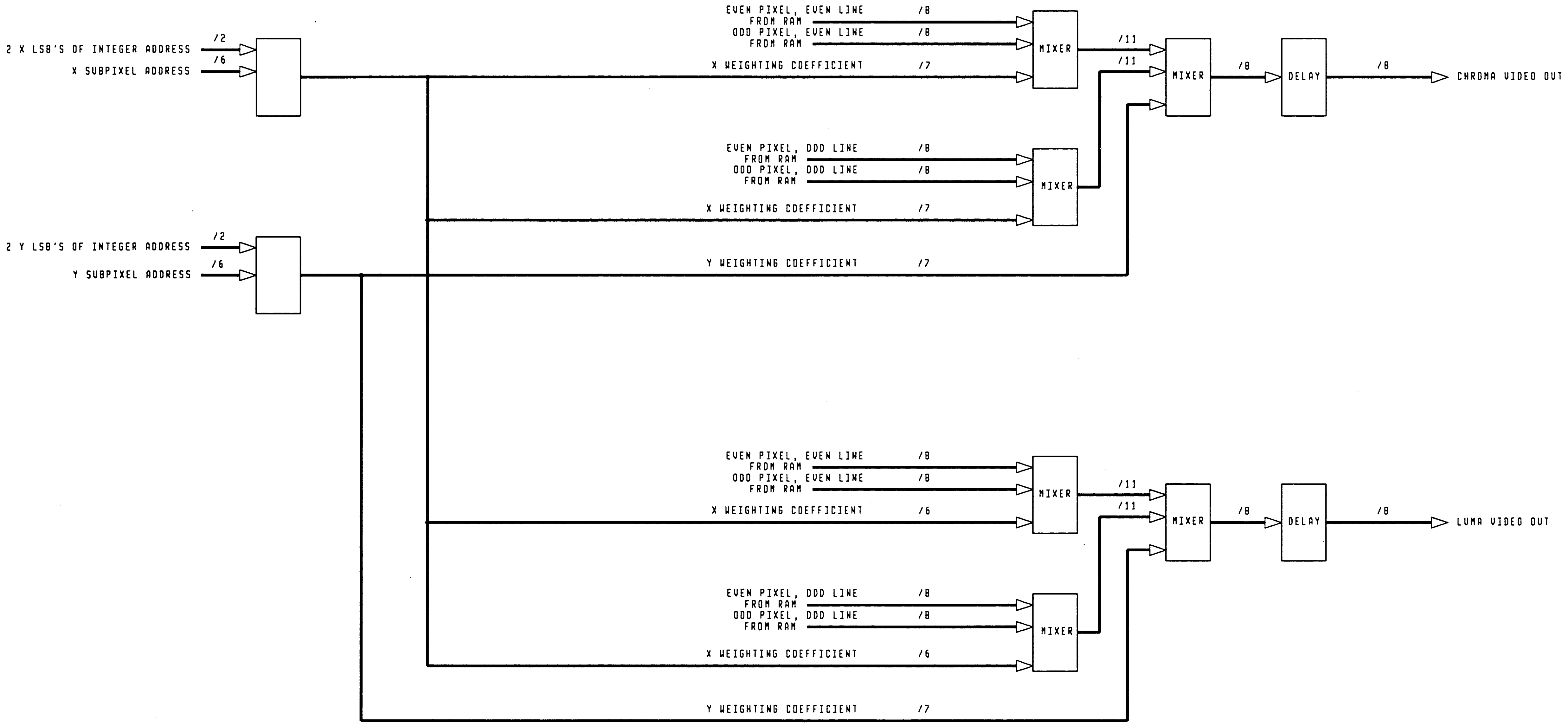
GRASS VALLEY GROUP

BLOCK DIAGRAM

READ ADDRESS GENERATOR

SIZE D
DRAWING NO. 00-064741-00/10
REV A1
SCALE: NONE
SHEET 4 OF 6

SEE SHEET ONE FOR REVISIONS


2 X LSB'S OF INTEGER ADDRESS
/2
X SUBPIXEL ADDRESS
/6
EVEN PIXEL, EVEN LINE FROM RAM
/8
ODD PIXEL, EVEN LINE FROM RAM
/8
X WEIGHTING COEFFICIENT
/7
MIXER
/11
/11
MIXER
/8
DELAY
/8
CHROMA VIDEO OUT
EVEN PIXEL, ODD LINE FROM RAM
/8
ODD PIXEL, ODD LINE FROM RAM
/8
MIXER
X WEIGHTING COEFFICIENT
/7
2 Y LSB'S OF INTEGER ADDRESS
/2
Y SUBPIXEL ADDRESS
/6
Y WEIGHTING COEFFICIENT
/7
EVEN PIXEL, EVEN LINE FROM RAM
/8
ODD PIXEL, EVEN LINE FROM RAM
/8
X WEIGHTING COEFFICIENT
/6
MIXER
/11
/11
MIXER
/8
DELAY
/8
LUMA VIDEO OUT
EVEN PIXEL, ODD LINE FROM RAM
/8
ODD PIXEL, ODD LINE FROM RAM
/8
MIXER
X WEIGHTING COEFFICIENT
/6
Y WEIGHTING COEFFICIENT
/7

GRASS VALLEY GROUP

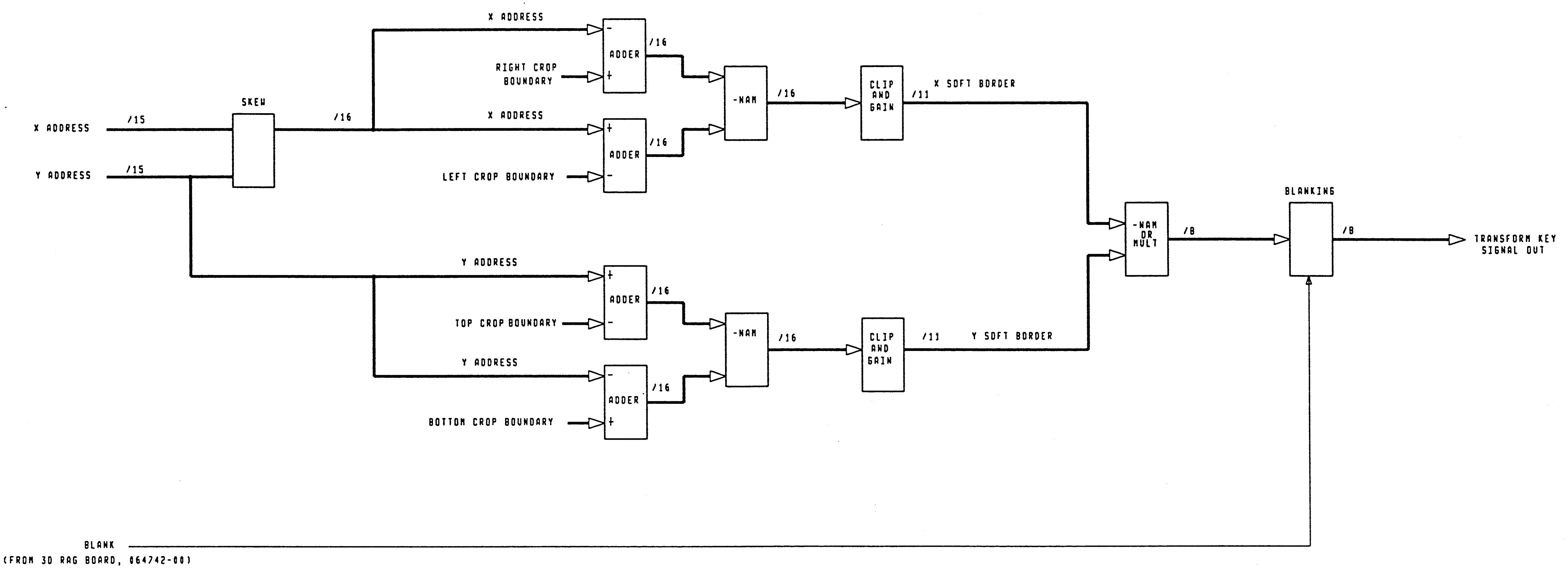
BLOCK DIAGRAM

LUMA INTERPOLATOR
CHROMA INTERPOLATOR

SIZE	DRAWING NO.	REV
D	00-064741-00/10	A1

SCALE: NONE SHEET 5 OF 6

SEE SHEET ONE FOR REVISIONS


X ADDRESS
/15
Y ADDRESS
/15
SKEW
/16
X ADDRESS
-
ADDER
+
RIGHT CROP BOUNDARY
/16
X ADDRESS
+
ADDER
-
LEFT CROP BOUNDARY
/16
-NAM
/16
CLIP AND GAIN
/11
X SOFT BORDER
Y ADDRESS
+
ADDER
-
TOP CROP BOUNDARY
/16
Y ADDRESS
-
ADDER
+
BOTTOM CROP BOUNDARY
/16
-NAM
/16
CLIP AND GAIN
/11
Y SOFT BORDER
-NAM OR MULT
/8
BLANKING
/8
TRANSFORM KEY SIGNAL OUT
BLANK
(FROM 3D RAG BOARD, 064742-00)

GRASS VALLEY GROUP

BLOCK DIAGRAM

TRANSFORM KEY SIGNAL GENERATOR

SIZE	DRAWING NO.	REV
D	00-064741-00/10	A1

SCALE: NONE | SHEET 6 OF 6

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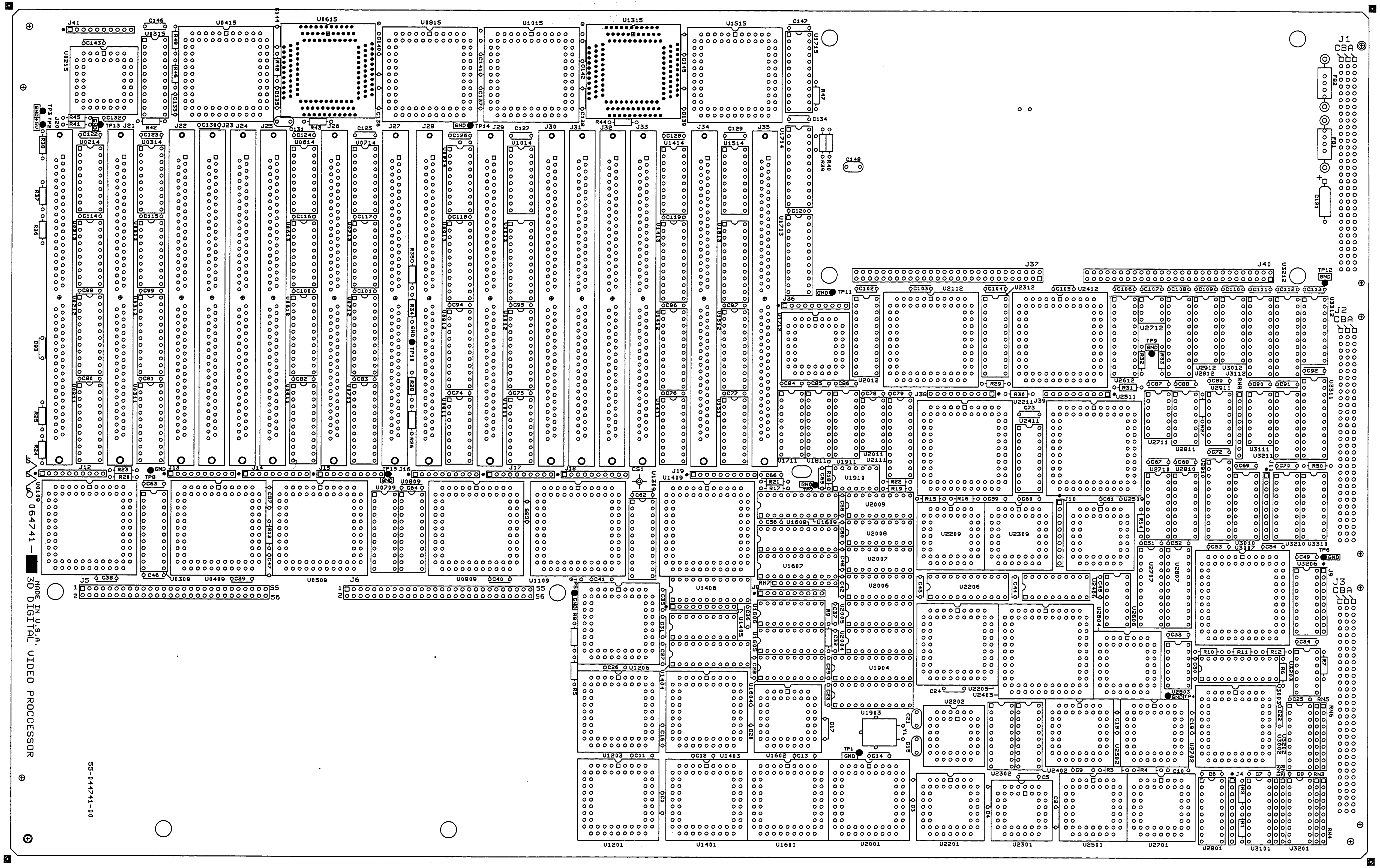
REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
A1	Z401 Z406	——	——	——	——		——

PILOT RUN RELEASE



U0215
U0315
U0415
U0615
U0815
U1015
U1315
U1515
J1
J2
J3
J4
J5
J6
J10
J12
J13
J14
J15
J16
J17
J18
J19
J20
J21
J22
J23
J24
J25
J26
J27
J28
J29
J30
J31
J32
J33
J34
J35
J36
J37
J38
J39
J40
J41
CBA
GND
TP1
TP6
TP8
TP9
TP11
TP12
TP13
TP14
TP15
U1201
U1401
U1601
U2001
U2201
U2301
U2501
U2701
U2801
U3101
U3201
U0309
U0409
U0509
U0909
U1109
U1203
U1206
U1406
U1403
U1602
U1607
U1903
U1904
U2112
U2312
U2412
U2209
U2309
U2206
U2202
U2302
MADE IN U.S.A.
3D DIGITAL VIDEO PROCESSOR
064741-
55-064741-00

NOTES:
1. SCHEMATIC REFERENCE: D10-064741-00/10.
2. DARKENED COMPONENTS INDICATE TEST POINTS AND ADJUSTABLE COMPONENTS.
3. REFER TO SCHEMATIC FOR EDGE CONNECTOR PIN OUT INFORMATION.

	CADNETIX
DPM700	064741
USED ON	NEXT ASSY
APPLICATION	
DISTRIBUTION	

GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA *A TEKTRONIX COMPANY*

DRAWN KFULMER DATE 18JUN91
ENGINEER RCB
CHECKED DATE
APPROVED RB DATE 19JUN91
PILOT RUN RLSE DATE
ENGRG RLSE DATE

COMPONENT LOCATION DWG
3D DIGITAL VIDEO PROCESSOR

SIZE B
DRAWING NO. 07-064741-00/10 A1
SCALE: NONE
SHEET 1 OF 1

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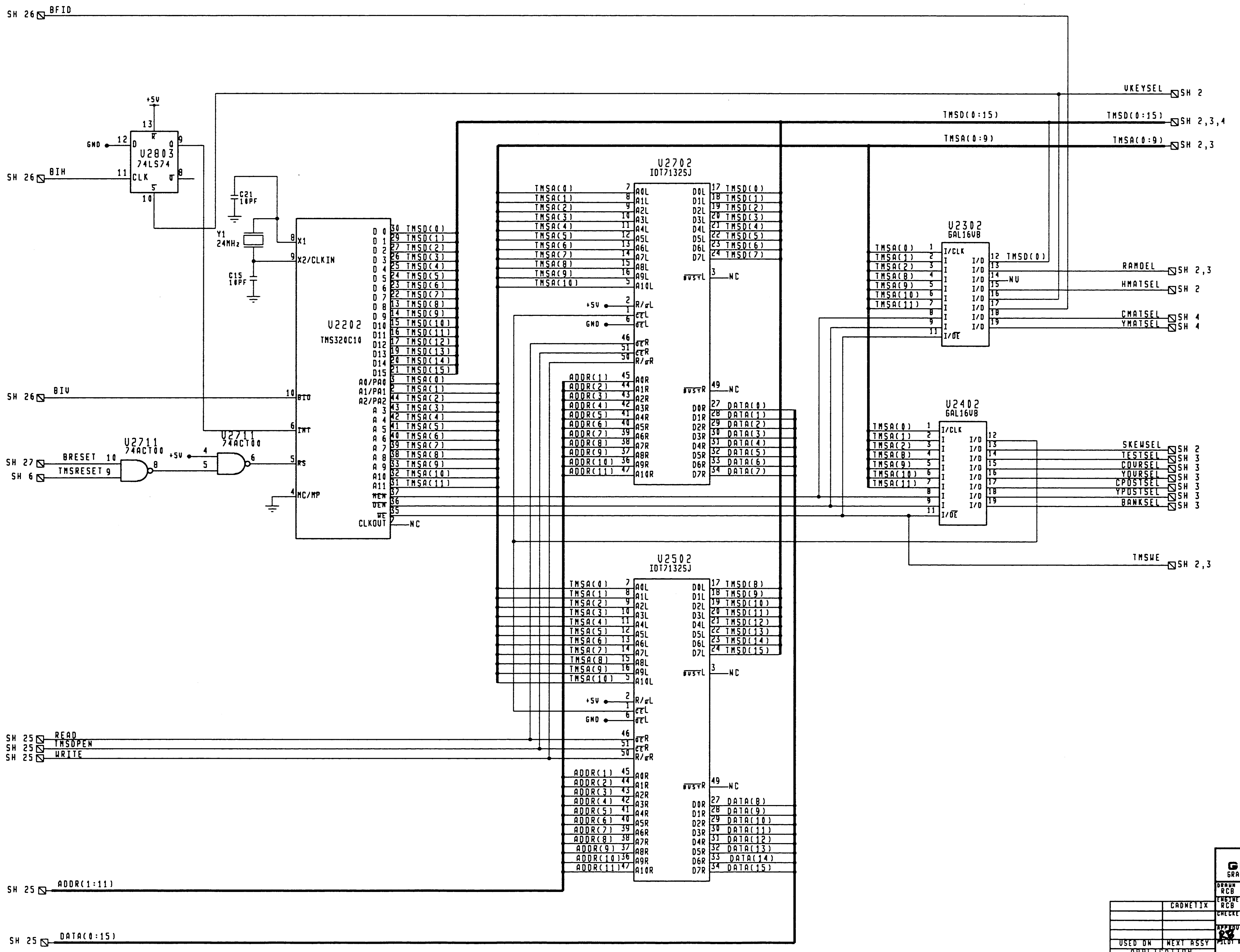
REVISIONS							
REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
A1	2401 2406	KLF	6/91	—	—		—

PILOT RUN RELEASE


SH 26 BFID
SH 26 BIH
SH 26 BIV
SH 27 BRESET
SH 6 TMSRESET
SH 25 READ
SH 25 TMSDPEN
SH 25 WRITE
SH 25 ADDR(1:11)
SH 25 DATA(0:15)
+5V
GND
U2803
74LS74
D
CLK
Q
Q̄
C21 10PF
Y1 24MHz
C15 10PF
U2711 74ACT00
U2202
TMS320C10
X1
X2/CLKIN
BIO
INT
RS
MC/MP
D0–D15
A0/PA0
A1/PA1
A2/PA2
A3–A11
REN
DEN
WE
CLKOUT
NC
TMSD(0:15)
TMSA(0:9)
TMSD(0)–TMSD(15)
TMSA(0)–TMSA(11)
U2702
IDT7132SJ
U2502
IDT7132SJ
A0L–A10L
D0L–D7L
BUSYL
R/WL
CEL
OEL
CER
OER
R/WR
A0R–A10R
D0R–D7R
BUSYR
ADDR(1)–ADDR(11)
DATA(0)–DATA(15)
U2302
GAL16V8
U2402
GAL16V8
I/CLK
I
I/O
I/OE
NU
VKEYSEL SH 2
TMSD(0:15) SH 2,3,4
TMSA(0:9) SH 2,3
RAMDEL SH 2,3
HMATSEL SH 2
CMATSEL SH 4
YMATSEL SH 4
SKEWSEL SH 2
TESTSEL SH 3
COURSEL SH 3
YOURSEL SH 3
CPOSTSEL SH 3
YPOSTSEL SH 3
BANKSEL SH 3
TMSWE SH 2,3

GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA
A TEKTRONIX COMPANY

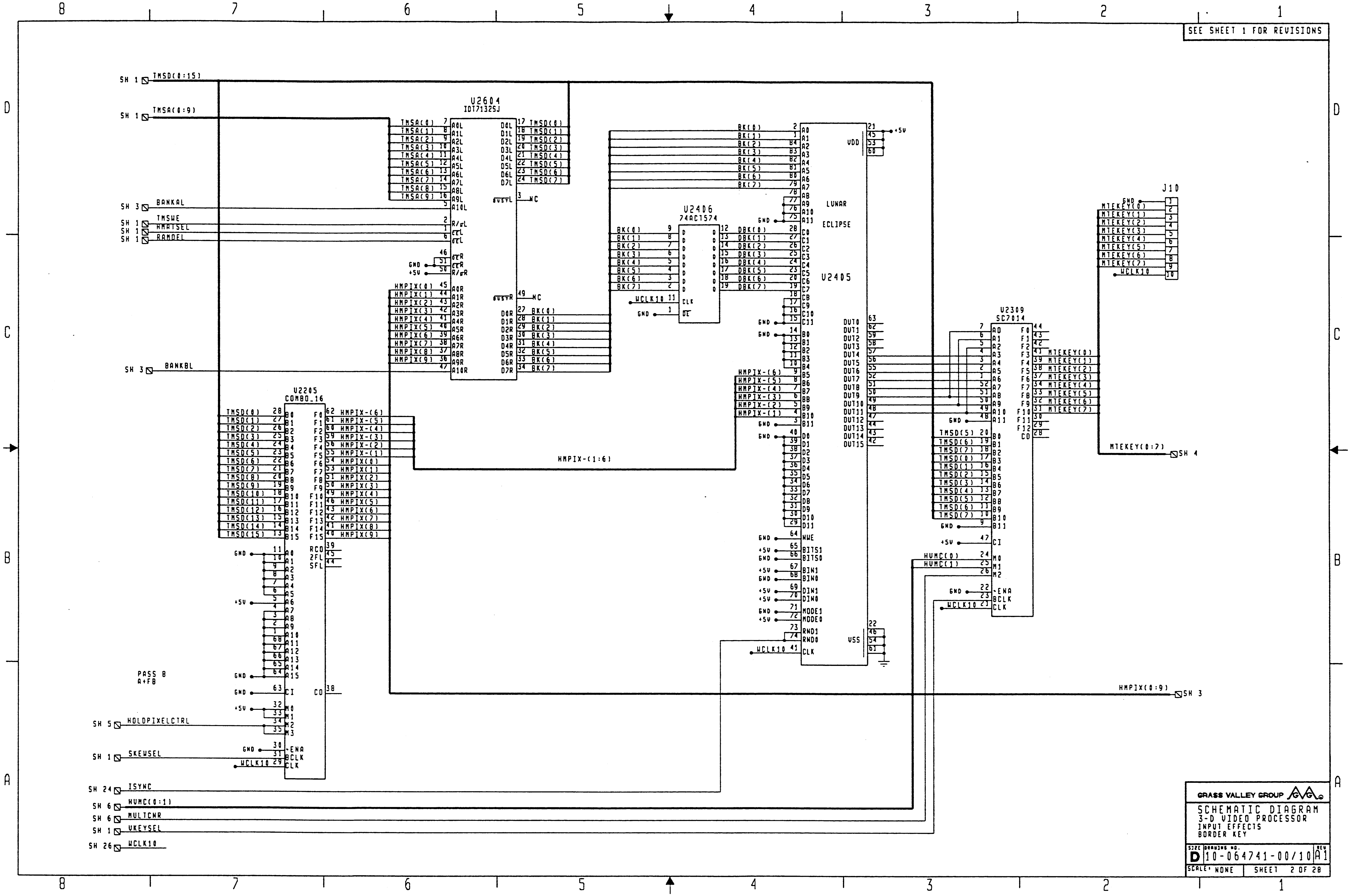
DRAWN RCB	DATE 2/6/91
ENGINEER RCB	
CHECKED	DATE
APPROVED RB	DATE 19 JUN 91
PILOT RUN RLSE	DATE
ENGRG RLSE	DATE

SCHEMATIC DIAGRAM
3-D VIDEO PROCESSOR
INPUT EFFECTS
CONTROL PROCESSOR

SIZE	DRAWING NO.	REV
D	10-064741-00/10	A1

SCALE: NONE SHEET 1 OF 28

	CADNETIX
USED ON	NEXT ASSY
APPLICATION	
DISTRIBUTION	


SH 1 TMSD(0:15)
SH 1 TMSA(0:9)
U2604
IDT7132SJ
SH 3 BANKAL
SH 1 TMSWE
SH 1 HMATSEL
SH 1 RAMDEL
SH 3 BANKBL
U2205
COMBO_16
HMPIX-(1:6)
U2406
74AC1574
WCLK10
GND
+5V
NC
LUNAR
ECLIPSE
U2405
VDD
VSS
U2309
SC7014
J10
MTEKEY(0:7) SH 4
HMPIX(0:9) SH 3
PASS B
A+FB
SH 5 HOLDPIXELCTRL
SH 1 SKEWSEL
SH 24 ISYNC
SH 6 HUMC(0:1)
SH 6 MULTCNR
SH 1 VKEYSEL
SH 26 WCLK10

SEE SHEET 1 FOR REVISIONS

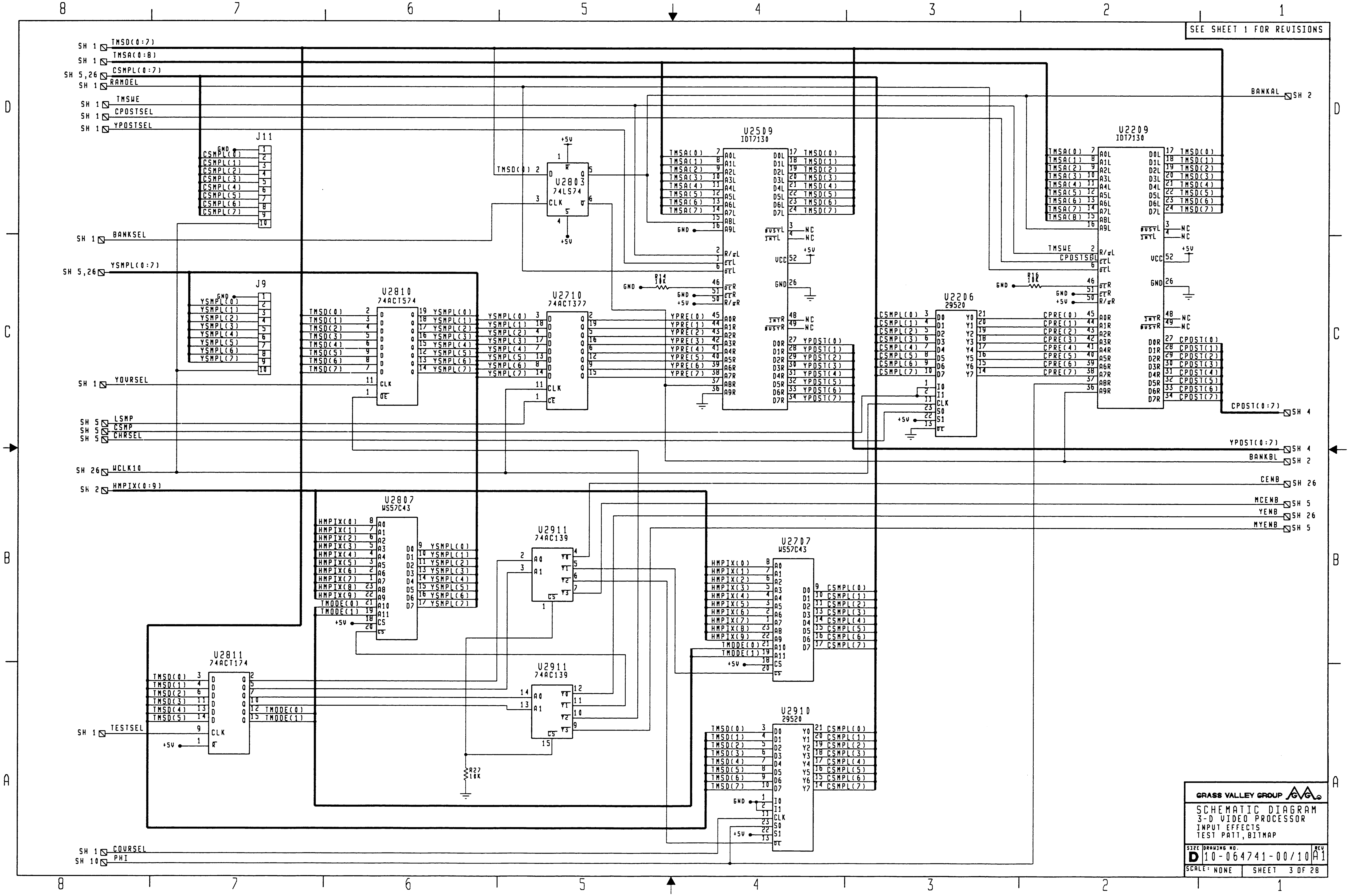
GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
3-D VIDEO PROCESSOR
INPUT EFFECTS
BORDER KEY

SIZE D DRAWING NO. 10-064741-00/10 REV A1

SCALE: NONE SHEET 2 OF 28

SEE SHEET 1 FOR REVISIONS



SH 1 TMSD(0:7)
SH 1 TMSA(0:8)
SH 5,26 CSMPL(0:7)
SH 1 RAMOEL
SH 1 TMSWE
SH 1 CPOSTSEL
SH 1 YPOSTSEL
SH 1 BANKSEL
SH 5,26 YSMPL(0:7)
SH 1 YOURSEL
SH 5 LSMP
SH 5 CSMP
SH 5 CHRSEL
SH 26 WCLK10
SH 2 HMPIX(0:9)
SH 1 TESTSEL
SH 1 COURSEL
SH 10 PHI
BANKAL SH 2
CPOST(0:7) SH 4
YPOST(0:7) SH 4
BANKBL SH 2
CENB SH 26
MCENB SH 5
YENB SH 26
MYENB SH 5
J11
J9
U2803 74LS74
U2810 74ACT574
U2710 74ACT377
U2509 IDT7130
U2209 IDT7130
U2206 29520
U2807 WS57C43
U2911 74AC139
U2707 WS57C43
U2811 74ACT174
U2910 29520
R14 10K
R16 10K
R27 10K
TMODE(0)
TMODE(1)
YPRE(0:7)
CPRE(0:7)
GND
+5V
NC

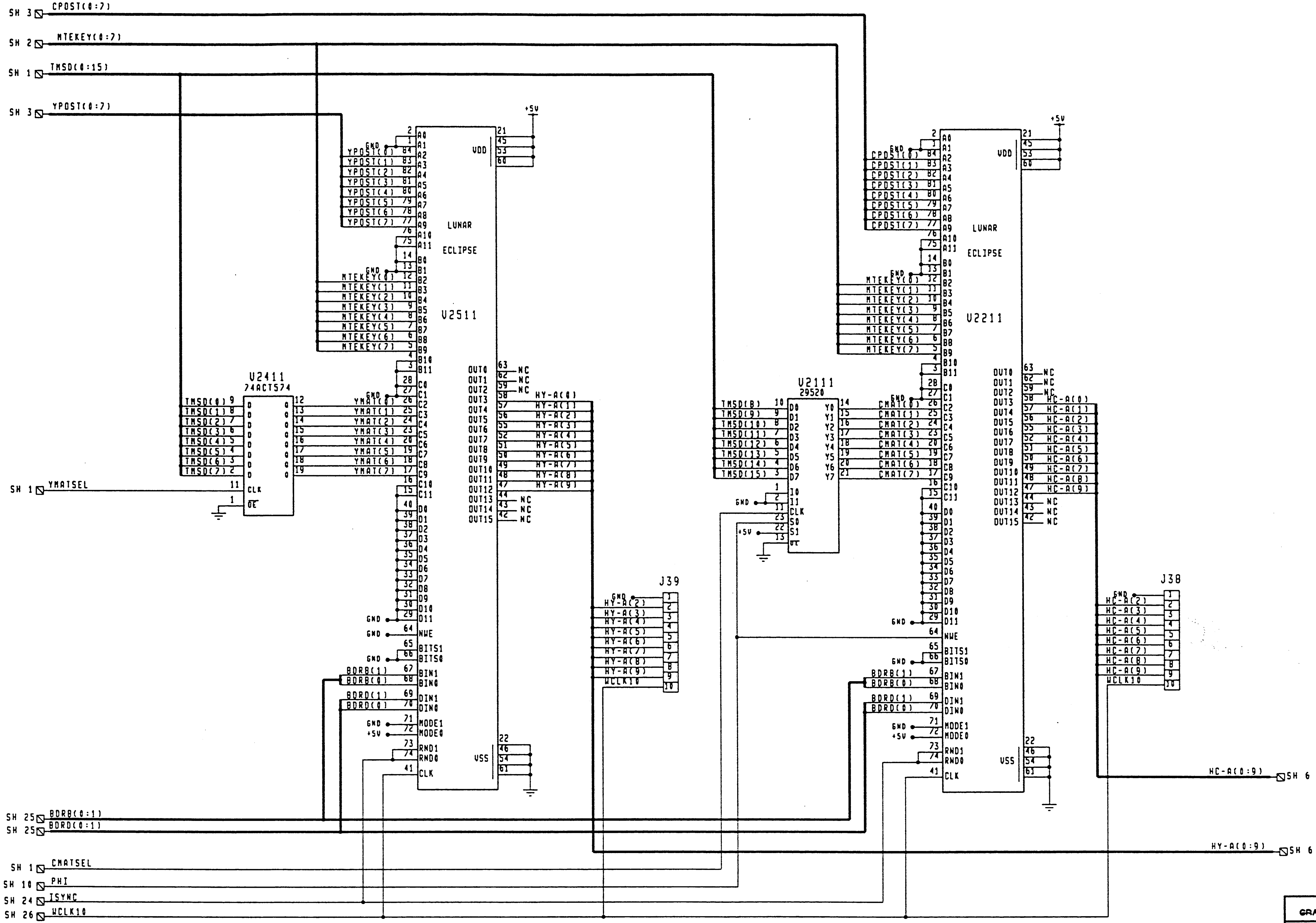
GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
3-D VIDEO PROCESSOR
INPUT EFFECTS
TEST PATT, BITMAP

SIZE D DRAWING NO. 10-064741-00/10 REV A1

SCALE: NONE SHEET 3 OF 28

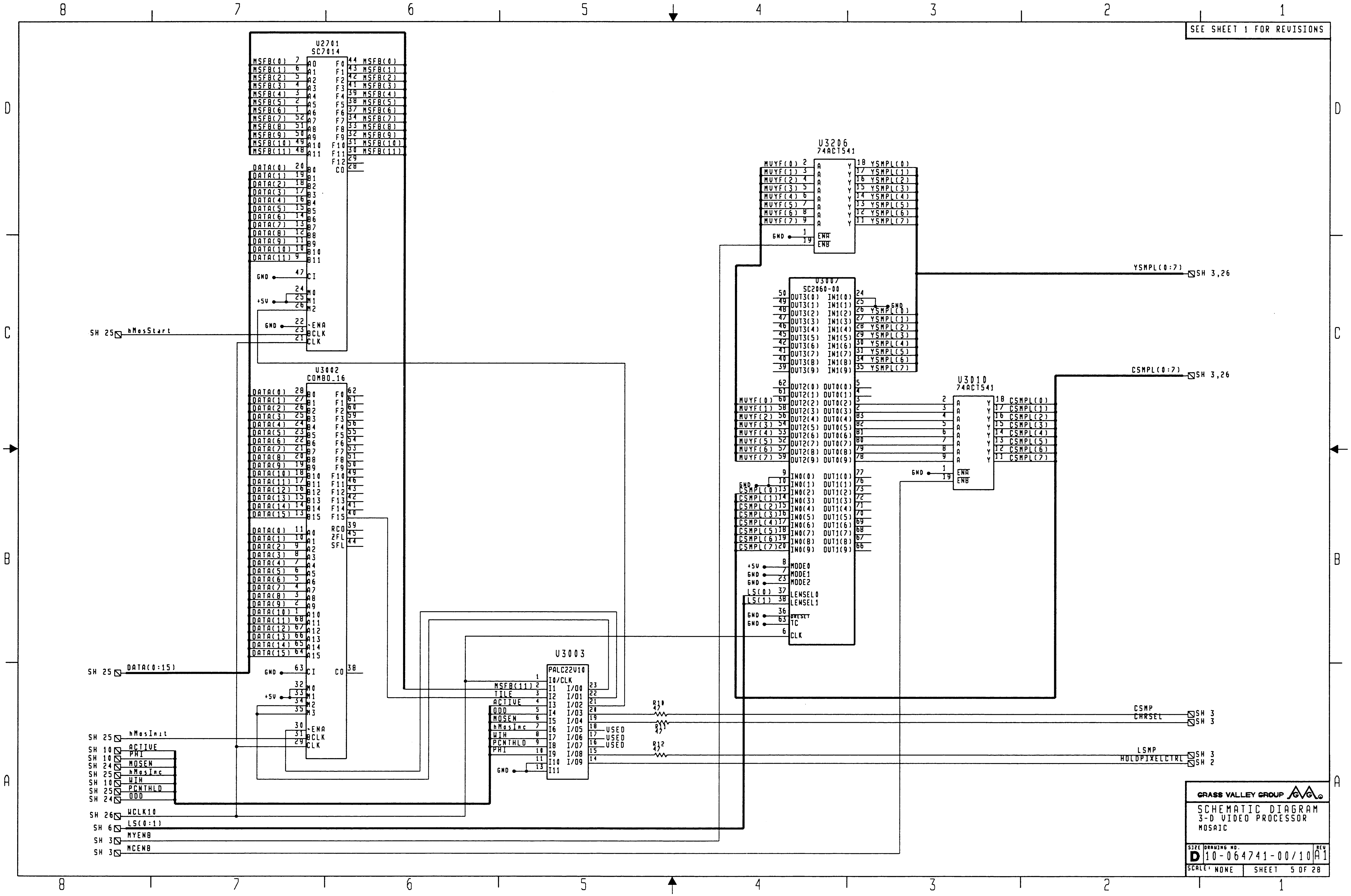
SEE SHEET 1 FOR REVISIONS


SH 3 CPOST(0:7)
SH 2 MTEKEY(0:7)
SH 1 TMSD(0:15)
SH 3 YPOST(0:7)
SH 1 YMATSEL
U2411
74ACT574
TMSD(0) … TMSD(7)
YMAT(0) … YMAT(7)
CLK
OE
U2511
LUNAR ECLIPSE
+5V
VDD
VSS
GND
YPOST(0) … YPOST(7)
MTEKEY(0) … MTEKEY(7)
A0 … A11
B0 … B11
C0 … C11
D0 … D11
NWE
BITS1
BITS0
BIN1
BIN0
DIN1
DIN0
MODE1
MODE0
RND1
RND0
CLK
OUT0 … OUT15
NC
HY-A(0) … HY-A(9)
BDRB(1)
BDRB(0)
BDRD(1)
BDRD(0)
J39
HY-A(2) … HY-A(9)
WCLK10
U2111
29520
TMSD(8) … TMSD(15)
D0 … D7
Y0 … Y7
I0
I1
S0
S1
OE
CMAT(0) … CMAT(7)
U2211
LUNAR ECLIPSE
CPOST(0) … CPOST(7)
HC-A(0) … HC-A(9)
J38
HC-A(2) … HC-A(9)
HC-A(0:9) SH 6
HY-A(0:9) SH 6
SH 25 BDRB(0:1)
SH 25 BDRD(0:1)
SH 1 CMATSEL
SH 10 PHI
SH 24 ISYNC
SH 26 WCLK10

GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
3-D VIDEO PROCESSOR
INPUT EFFECTS
BORDER MIX

SIZE	DRAWING NO.	REV
D	10-064741-00/10	A1
SCALE: NONE	SHEET 4 OF 28	


U2701
SC7014
MSFB(0:11)
DATA(0:11)
GND
+5V
ENA
BCLK
CLK
CO
SH 25 hMosStart
U3002
COMBO_16
DATA(0:15)
RCO
ZFL
SFL
SH 25 DATA(0:15)
SH 25 hMosInit
SH 10 ACTIVE
SH 10 PHI
SH 24 MOSEN
SH 25 hMosInc
SH 10 WIH
SH 25 PCNTHLD
SH 24 ODD
SH 26 WCLK10
SH 6 LS(0:1)
SH 3 MYENB
SH 3 MCENB
U3003
PALC22V10
I0/CLK
MSFB(11)
TILE
ACTIVE
ODD
MOSEN
hMosInc
WIH
PCNTHLD
PHI
USED
USED
USED
R10 47
R11 47
R12 47
U3206
74ACT541
MUYF(0:7)
YSMPL(0:7)
ENA
ENB
U3007
SC2060-00
OUT3(0:9)
IN1(0:9)
OUT2(0:9)
OUT0(0:9)
IN0(0:9)
OUT1(0:9)
CSMPL(0:7)
MODE0
MODE1
MODE2
LENSEL0
LENSEL1
PRESET
TC
CLK
LS(0)
LS(1)
U3010
74ACT541
YSMPL(0:7) SH 3,26
CSMPL(0:7) SH 3,26
CSMP SH 3
CHRSEL SH 3
LSMP SH 3
HOLDPIXELCTRL SH 2
8
7
6
5
4
3
2
1
D
C
B
A

SEE SHEET 1 FOR REVISIONS

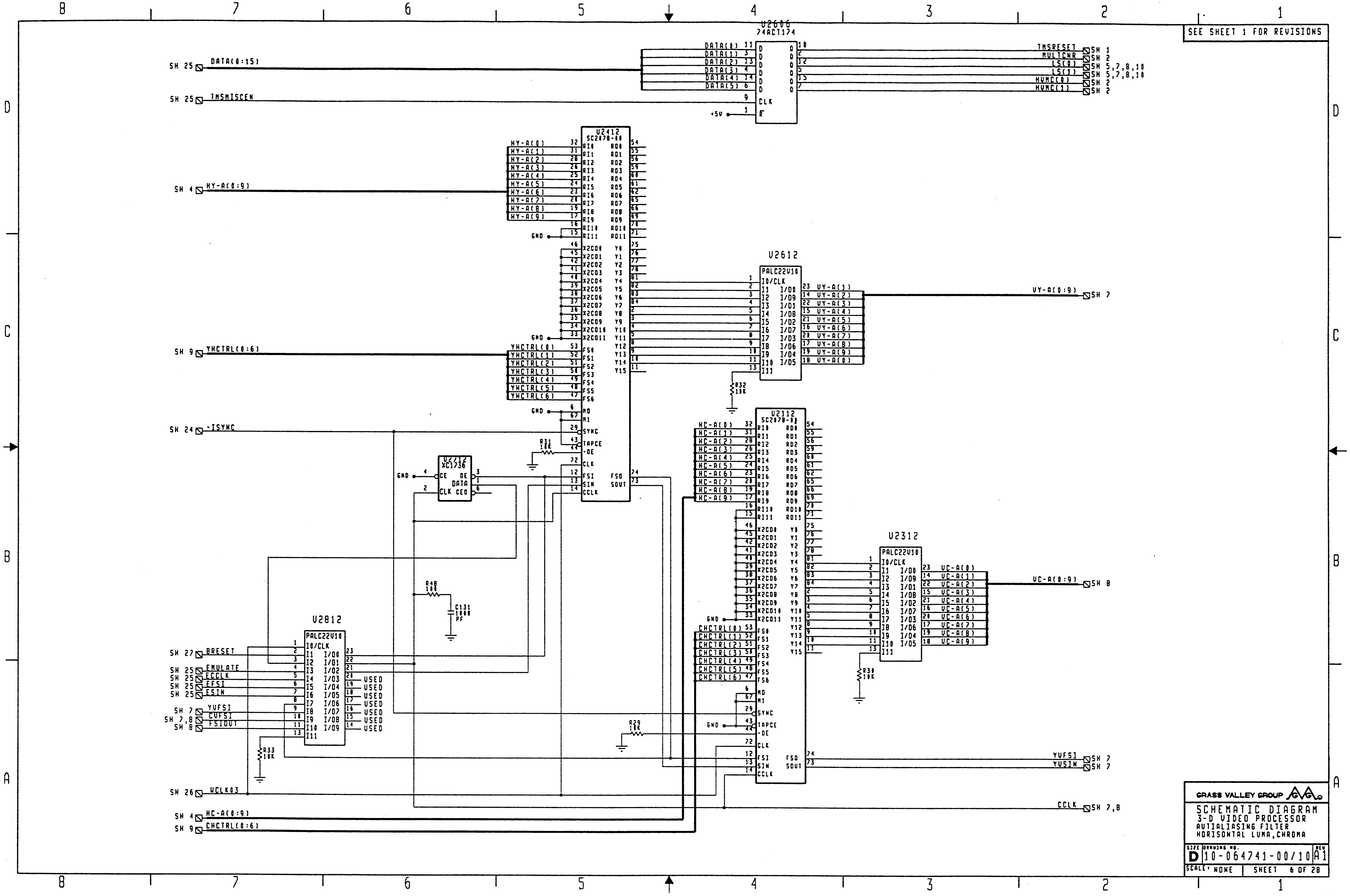
GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
3-D VIDEO PROCESSOR
MOSAIC

SIZE D DRAWING NO. 10-064741-00/10 REV A1

SCALE: NONE SHEET 5 OF 28

SEE SHEET 1 FOR REVISIONS



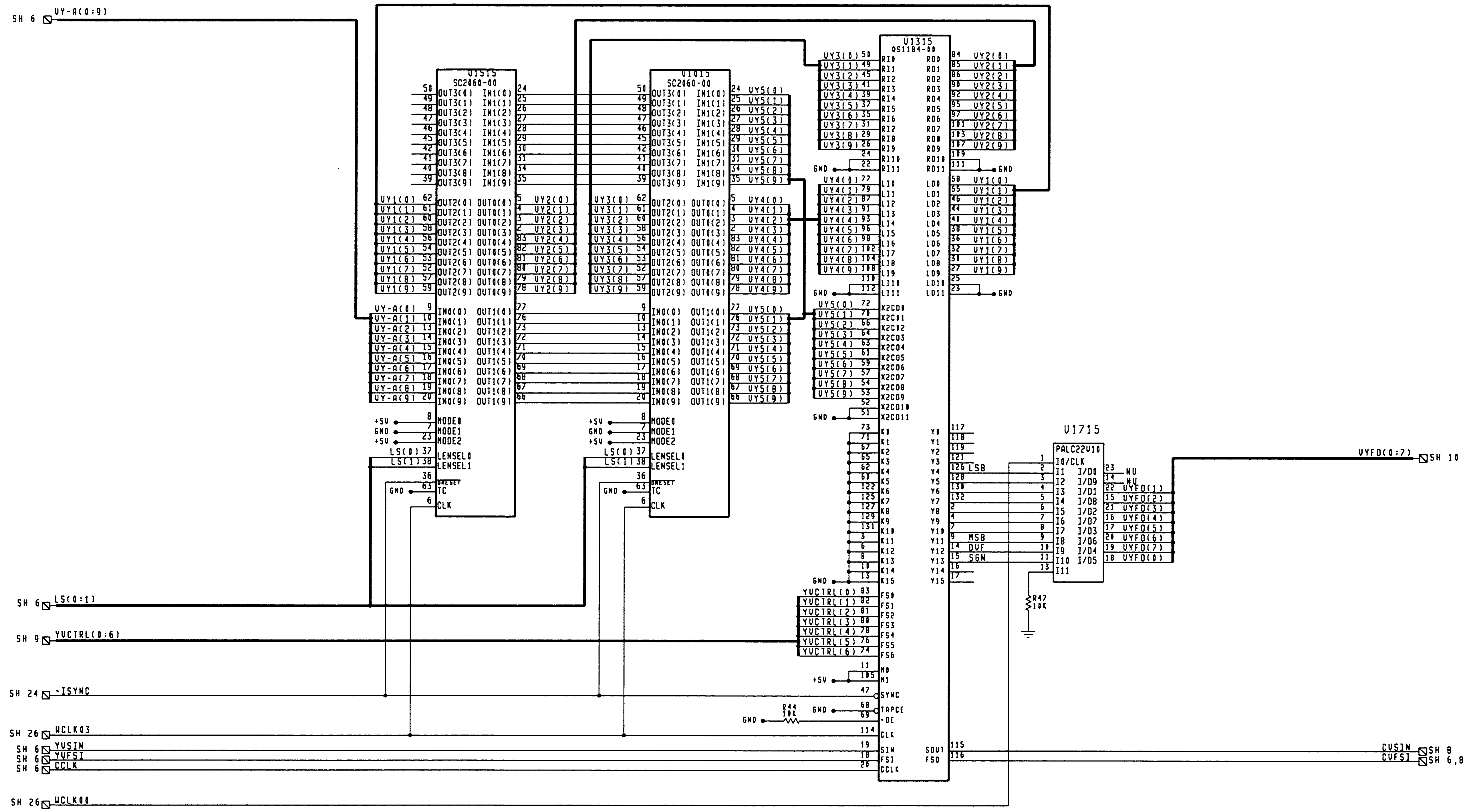
U2606
74ACT174
DATA(0:15)
TMSMISCEN
DATA(0)
DATA(1)
DATA(2)
DATA(3)
DATA(4)
DATA(5)
CLK
+5V
TMSRESET
MULTCNR
LS(0)
LS(1)
HUMC(0)
HUMC(1)
SH 1
SH 2
SH 5,7,8,10
SH 25
U2412
SC2070-00
HY-A(0:9)
HY-A(0)
HY-A(1)
HY-A(2)
HY-A(3)
HY-A(4)
HY-A(5)
HY-A(6)
HY-A(7)
HY-A(8)
HY-A(9)
SH 4
GND
YHCTRL(0:6)
YHCTRL(0)
YHCTRL(1)
YHCTRL(2)
YHCTRL(3)
YHCTRL(4)
YHCTRL(5)
YHCTRL(6)
SH 9
-ISYNC
SH 24
SYNC
TAPCE
-OE
CLK
FSI
SIN
CCLK
FSO
SOUT
R31
10K
U2712
XC1736
CE
OE
DATA
CLK
CEO
U2612
PALC22V10
I0/CLK
VY-A(0:9)
VY-A(1)
VY-A(2)
VY-A(3)
VY-A(4)
VY-A(5)
VY-A(6)
VY-A(7)
VY-A(8)
VY-A(9)
VY-A(0)
SH 7
R32
10K
U2112
SC2070-00
HC-A(0)
HC-A(1)
HC-A(2)
HC-A(3)
HC-A(4)
HC-A(5)
HC-A(6)
HC-A(7)
HC-A(8)
HC-A(9)
CHCTRL(0)
CHCTRL(1)
CHCTRL(2)
CHCTRL(3)
CHCTRL(4)
CHCTRL(5)
CHCTRL(6)
R29
10K
U2312
PALC22V10
VC-A(0:9)
VC-A(0)
VC-A(1)
VC-A(2)
VC-A(3)
VC-A(4)
VC-A(5)
VC-A(6)
VC-A(7)
VC-A(8)
VC-A(9)
SH 8
R30
10K
R48
100
C131
1000
PF
U2812
PALC22V10
BRESET
SH 27
EMULATE
ECCLK
EFSI
ESIN
SH 25
YVFSI
CVFSI
FSIOUT
SH 7
SH 7,8
SH 8
USED
R33
10K
VCLK03
SH 26
HC-A(0:9)
SH 4
CHCTRL(0:6)
SH 9
YVFSI
YVSIN
SH 7
CCLK
SH 7,8

GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
3-D VIDEO PROCESSOR
AUTIALIASING FILTER
HORISONTAL LUMA, CHROMA

SIZE D
DRAWING NO. 10-064741-00/10
REV A1
SCALE: NONE
SHEET 6 OF 28

SEE SHEET 1 FOR REVISIONS


SH 6 VY-A(0:9)
U1515
SC2060-00
U1015
SC2060-00
U1315
QS1184-00
U1715
PALC22V10
SH 6 LS(0:1)
SH 9 YUCTRL(0:6)
SH 24 ~ISYNC
SH 26 WCLK03
SH 6 YUSIN
SH 6 YUFSI
SH 6 CCLK
SH 26 WCLK00
VYFD(0:7) SH 10
CUSIN SH 8
CUFSI SH 6,8
R44 10K
R47 10K
GND
+5V
LSB
MSB
OVF
SGN
NU
SYNC
TAPCE
OE
CLK
SIN
FSI
CCLK
SOUT
FSO

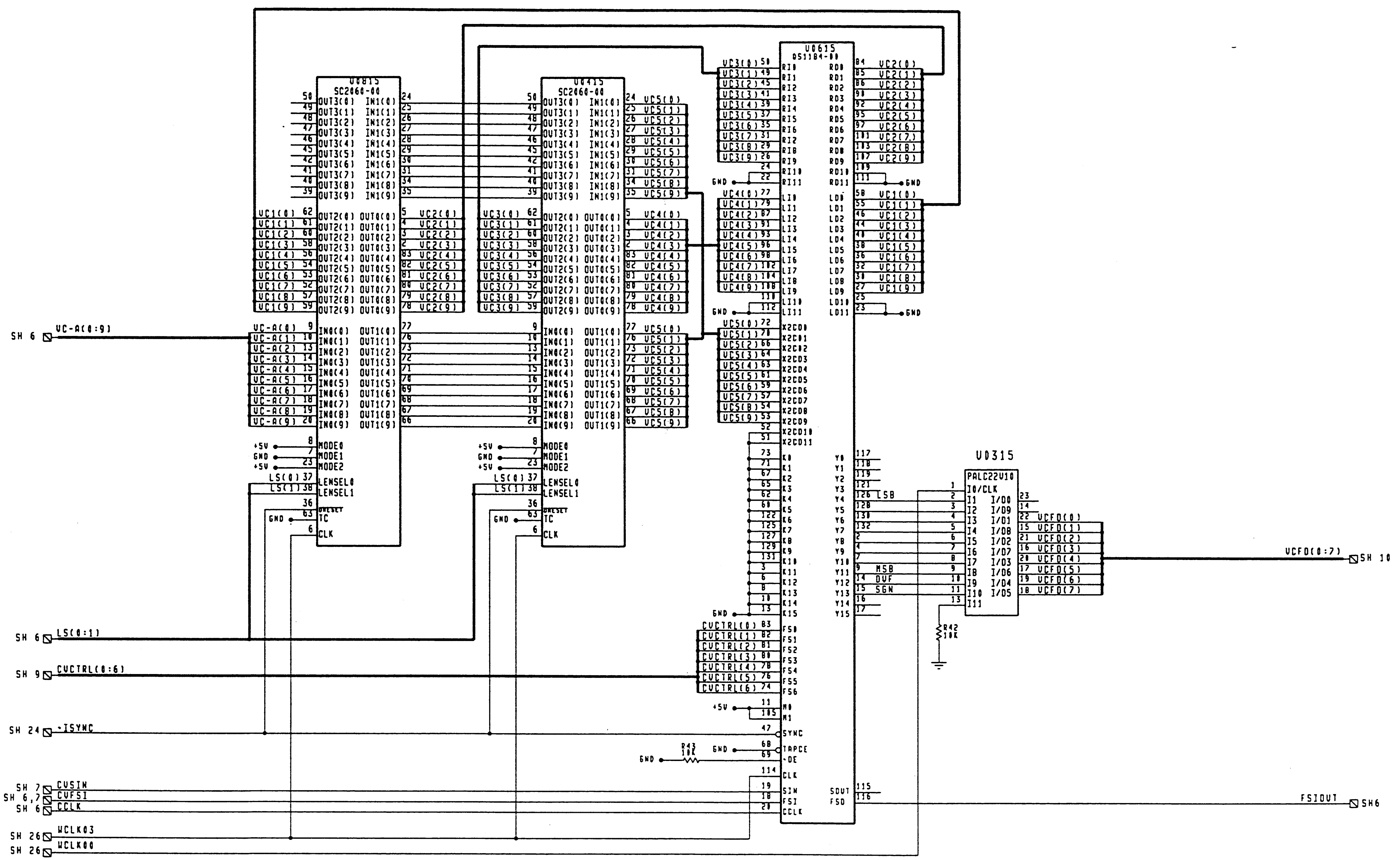
GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
3-D VIDEO PROCESSOR
AUTIALIASING FILTER
VERTICAL LUMA

SIZE	DRAWING NO.	REV
D	10-064741-00/10	A1

SCALE: NONE SHEET 7 OF 28

SEE SHEET 1 FOR REVISIONS


U0815
SC2060-00
U0415
SC2060-00
U0615
DS1184-00
U0315
PALC22V10
OUT3(0)–OUT3(9)
IN1(0)–IN1(9)
OUT2(0)–OUT2(9)
OUT0(0)–OUT0(9)
IN0(0)–IN0(9)
OUT1(0)–OUT1(9)
MODE0
MODE1
MODE2
LENSEL0
LENSEL1
PRESET
TC
CLK
VC1(0)–VC1(9)
VC2(0)–VC2(9)
VC3(0)–VC3(9)
VC4(0)–VC4(9)
VC5(0)–VC5(9)
VC-A(0)–VC-A(9)
LS(0)
LS(1)
+5V
GND
RI0–RI11
RD0–RD11
LI0–LI11
LD0–LD11
X2CD0–X2CD11
K0–K15
FS0–FS6
M0
M1
SYNC
TAPCE
~OE
SIN
FSI
CCLK
SOUT
FSO
Y0–Y15
LSB
MSB
OVF
SGN
CVCTRL(0)–CVCTRL(6)
I0/CLK
I1–I11
I/O0–I/O9
VCFD(0)–VCFD(7)
R42 10K
R43 10K
SH 6 VC-A(0:9)
SH 6 LS(0:1)
SH 9 CVCTRL(0:6)
SH 24 ~ISYNC
SH 7 CVSIN
SH 6,7 CVFSI
SH 6 CCLK
SH 26 WCLK03
SH 26 WCLK00
VCFD(0:7) SH 10
FSIOUT SH6

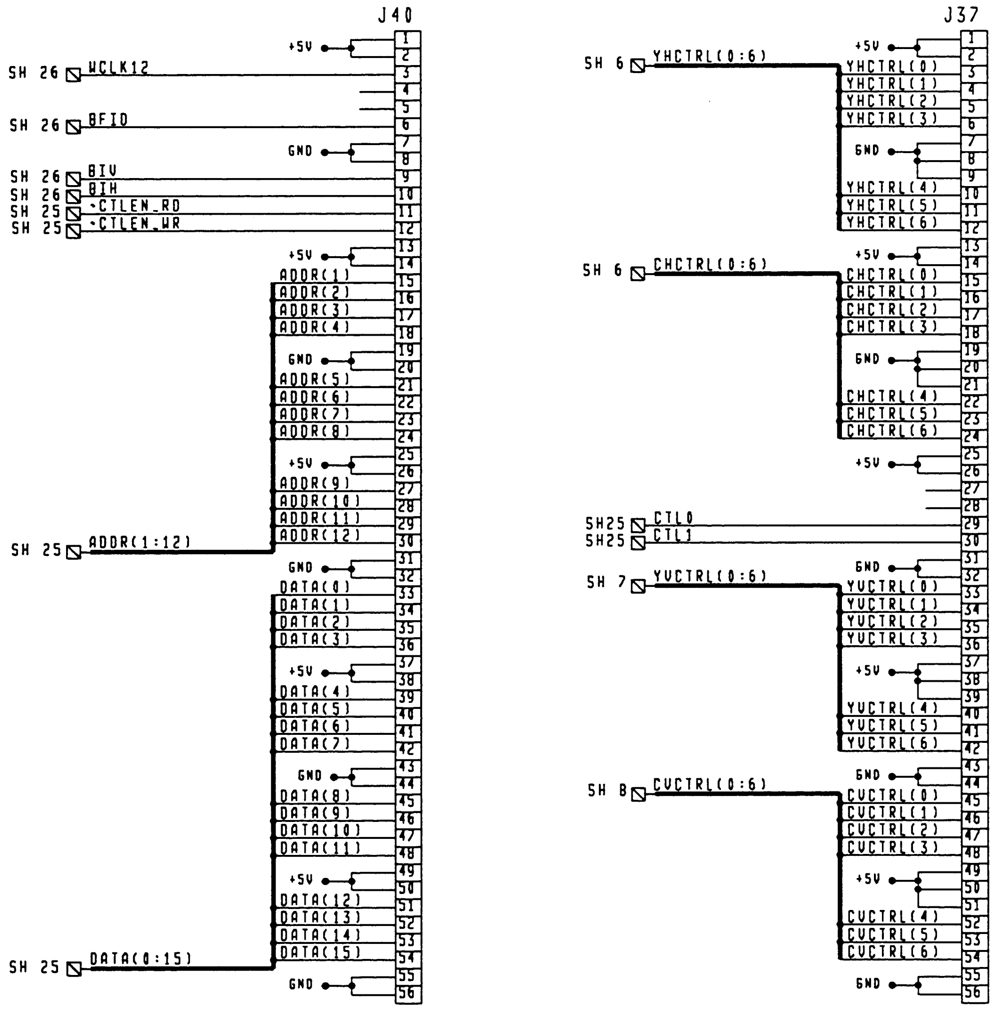
GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
3-D VIDEO PROCESSOR
ANTIALIASING FILTER
VERTICAL CHROMA

SIZE	DRAWING NO.	REV
D	10-064741-00/10	A1

SCALE: NONE
SHEET 8 OF 28

SEE SHEET 1 FOR REVISIONS

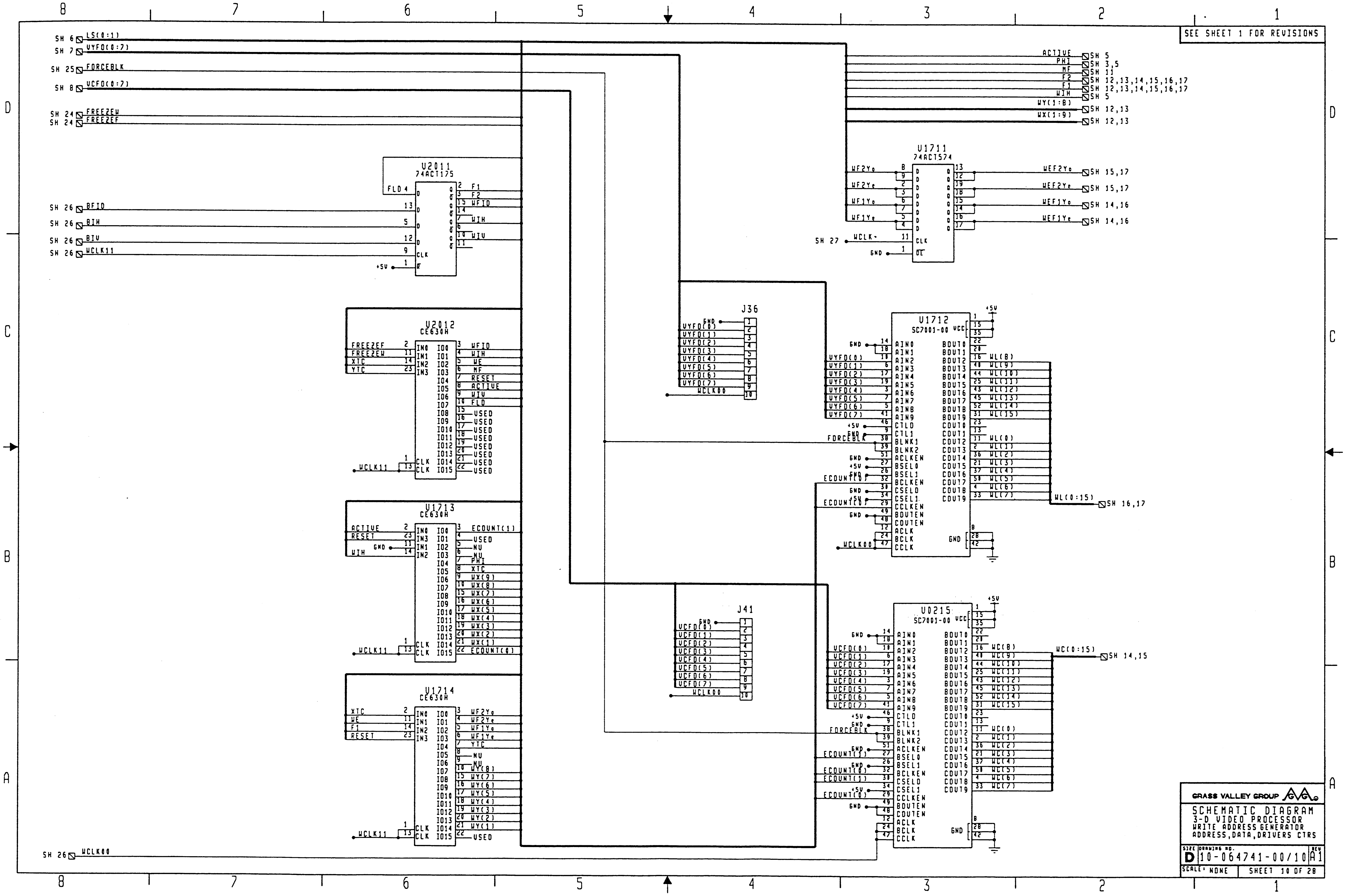

J40
+5V
SH 26 WCLK12
SH 26 BFID
GND
SH 26 BIV
SH 26 BIH
SH 25 *CTLEN_RD
SH 25 *CTLEN_WR
+5V
ADDR(1)
ADDR(2)
ADDR(3)
ADDR(4)
GND
ADDR(5)
ADDR(6)
ADDR(7)
ADDR(8)
+5V
ADDR(9)
ADDR(10)
ADDR(11)
ADDR(12)
SH 25 ADDR(1:12)
GND
DATA(0)
DATA(1)
DATA(2)
DATA(3)
+5V
DATA(4)
DATA(5)
DATA(6)
DATA(7)
GND
DATA(8)
DATA(9)
DATA(10)
DATA(11)
+5V
DATA(12)
DATA(13)
DATA(14)
DATA(15)
SH 25 DATA(0:15)
GND
J37
+5V
SH 6 YHCTRL(0:6)
YHCTRL(0)
YHCTRL(1)
YHCTRL(2)
YHCTRL(3)
GND
YHCTRL(4)
YHCTRL(5)
YHCTRL(6)
+5V
SH 6 CHCTRL(0:6)
CHCTRL(0)
CHCTRL(1)
CHCTRL(2)
CHCTRL(3)
GND
CHCTRL(4)
CHCTRL(5)
CHCTRL(6)
+5V
SH25 CTL0
SH25 CTL1
GND
SH 7 YVCTRL(0:6)
YVCTRL(0)
YVCTRL(1)
YVCTRL(2)
YVCTRL(3)
+5V
YVCTRL(4)
YVCTRL(5)
YVCTRL(6)
GND
SH 8 CVCTRL(0:6)
CVCTRL(0)
CVCTRL(1)
CVCTRL(2)
CVCTRL(3)
+5V
CVCTRL(4)
CVCTRL(5)
CVCTRL(6)
GND

GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
3-D VIDEO PROCESSOR
FILTER CONTROL
MEZZANINE

SIZE	DRAWING NO.	REV
D	10-064741-00/10	A1

SCALE: NONE | SHEET 9 OF 28

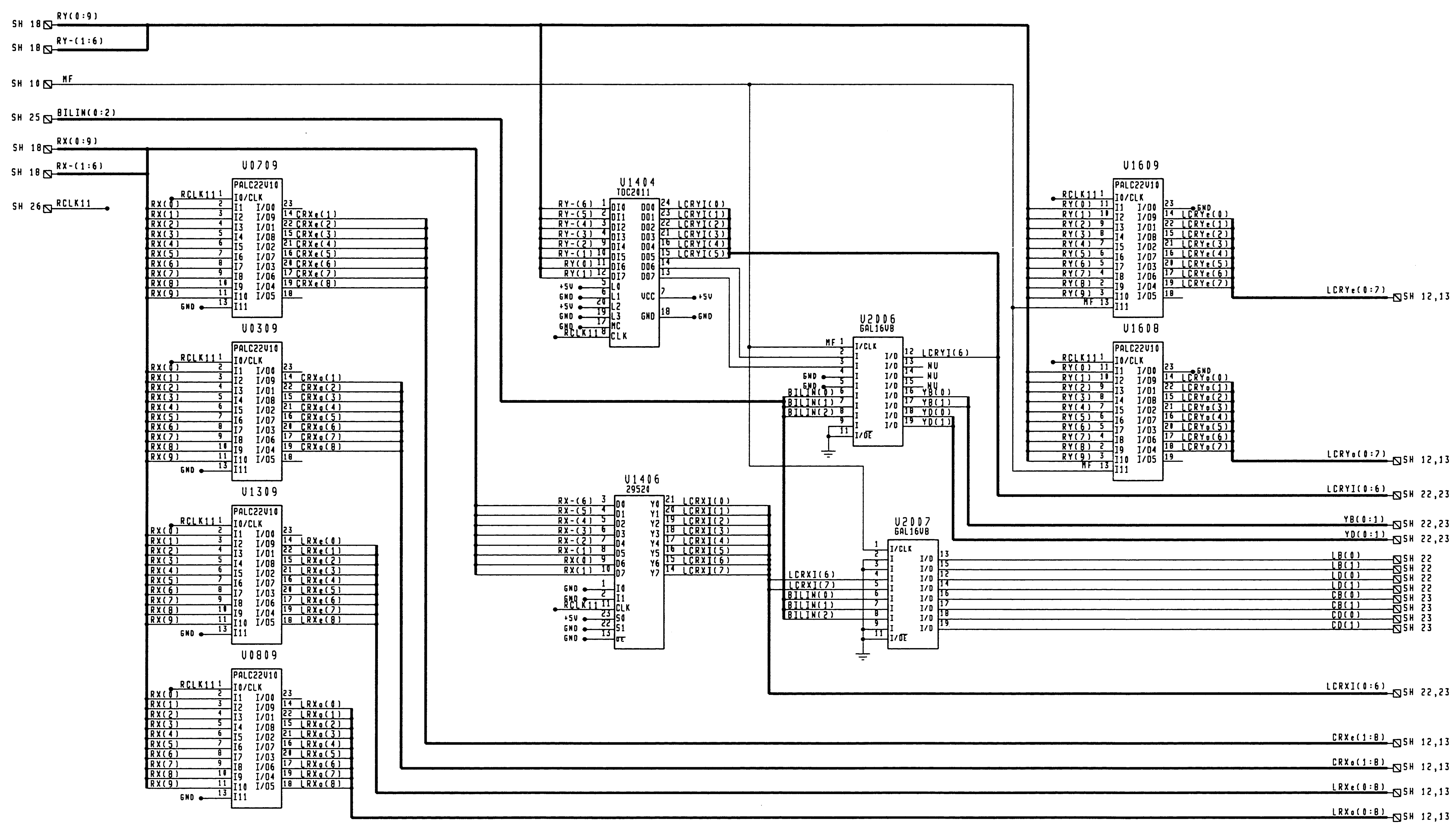

SEE SHEET 1 FOR REVISIONS
SH 6 LS(0:1)
SH 7 UYFD(0:7)
SH 25 FORCEBLK
SH 8 UCFD(0:7)
SH 24 FREEZEW
SH 24 FREEZEF
U2011
74ACT175
FLD 4
SH 26 BFID
SH 26 BIH
SH 26 BIV
SH 26 WCLK11
+5V
F1
F2
WFID
WIH
WIV
U2012
CE630H
FREEZEF
FREEZEW
XTC
YTC
WFID
WIH
WE
MF
RESET
ACTIVE
WIV
FLD
USED
WCLK11
U1713
CE630H
ACTIVE
RESET
GND
WIH
ECOUNT(1)
NU
PHI
XTC
WX(9)
WX(8)
WX(7)
WX(6)
WX(5)
WX(4)
WX(3)
WX(2)
WX(1)
ECOUNT(0)
U1714
CE630H
XTC
WE
F1
RESET
WF2Yo
WF2Ye
WF1Yo
WF1Ye
YTC
WY(8)
WY(7)
WY(6)
WY(5)
WY(4)
WY(3)
WY(2)
WY(1)
SH 26 WCLK00
ACTIVE SH 5
PHI SH 3,5
MF SH 11
F2 SH 12,13,14,15,16,17
F1 SH 12,13,14,15,16,17
WIH SH 5
WY(1:8) SH 12,13
WX(1:9) SH 12,13
U1711
74ACT574
WEF2Yo SH 15,17
WEF2Ye SH 15,17
WEF1Yo SH 14,16
WEF1Ye SH 14,16
SH 27 WCLK-
GND
CLK
OE
J36
J41
WCLK00
U1712
SC7001-00
U0215
SC7001-00
VCC
AIN0 … AIN9
BOUT0 … BOUT9
COUT0 … COUT9
CTL0
CTL1
BLNK1
BLNK2
ACLKEN
BSEL0
BSEL1
BCLKEN
CSEL0
CSEL1
CCLKEN
BOUTEN
COUTEN
ACLK
BCLK
CCLK
FORCEBLK
ECOUNT(0)
ECOUNT(1)
WL(0:15) SH 16,17
WC(0:15) SH 14,15

GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
3-D VIDEO PROCESSOR
WRITE ADDRESS GENERATOR
ADDRESS,DATA,DRIVERS CTRS

SIZE D | DRAWING NO. 10-064741-00/10 | REV A1
SCALE: NONE | SHEET 10 OF 28

SEE SHEET 1 FOR REVISIONS



SH 18 RY(0:9)
SH 18 RY-(1:6)
SH 10 MF
SH 25 BILIN(0:2)
SH 18 RX(0:9)
SH 18 RX-(1:6)
SH 26 RCLK11
U0709 PALC22V10
U0309 PALC22V10
U1309 PALC22V10
U0809 PALC22V10
U1404 TDC2011
U1406 29520
U2006 GAL16V8
U2007 GAL16V8
U1609 PALC22V10
U1608 PALC22V10
RCLK11
GND
+5V
NU
CRXe(1) … CRXe(8)
CRXo(1) … CRXo(8)
LRXe(0) … LRXe(8)
LRXo(0) … LRXo(8)
LCRYI(0) … LCRYI(6)
LCRXI(0) … LCRXI(7)
LCRYe(0) … LCRYe(7)
LCRYo(0) … LCRYo(7)
YB(0) YB(1) YD(0) YD(1)
LCRYe(0:7) SH 12,13
LCRYo(0:7) SH 12,13
LCRYI(0:6) SH 22,23
YB(0:1) SH 22,23
YD(0:1) SH 22,23
LB(0) SH 22
LB(1) SH 22
LD(0) SH 22
LD(1) SH 22
CB(0) SH 23
CB(1) SH 23
CD(0) SH 23
CD(1) SH 23
LCRXI(0:6) SH 22,23
CRXe(1:8) SH 12,13
CRXo(1:8) SH 12,13
LRXe(0:8) SH 12,13
LRXo(0:8) SH 12,13

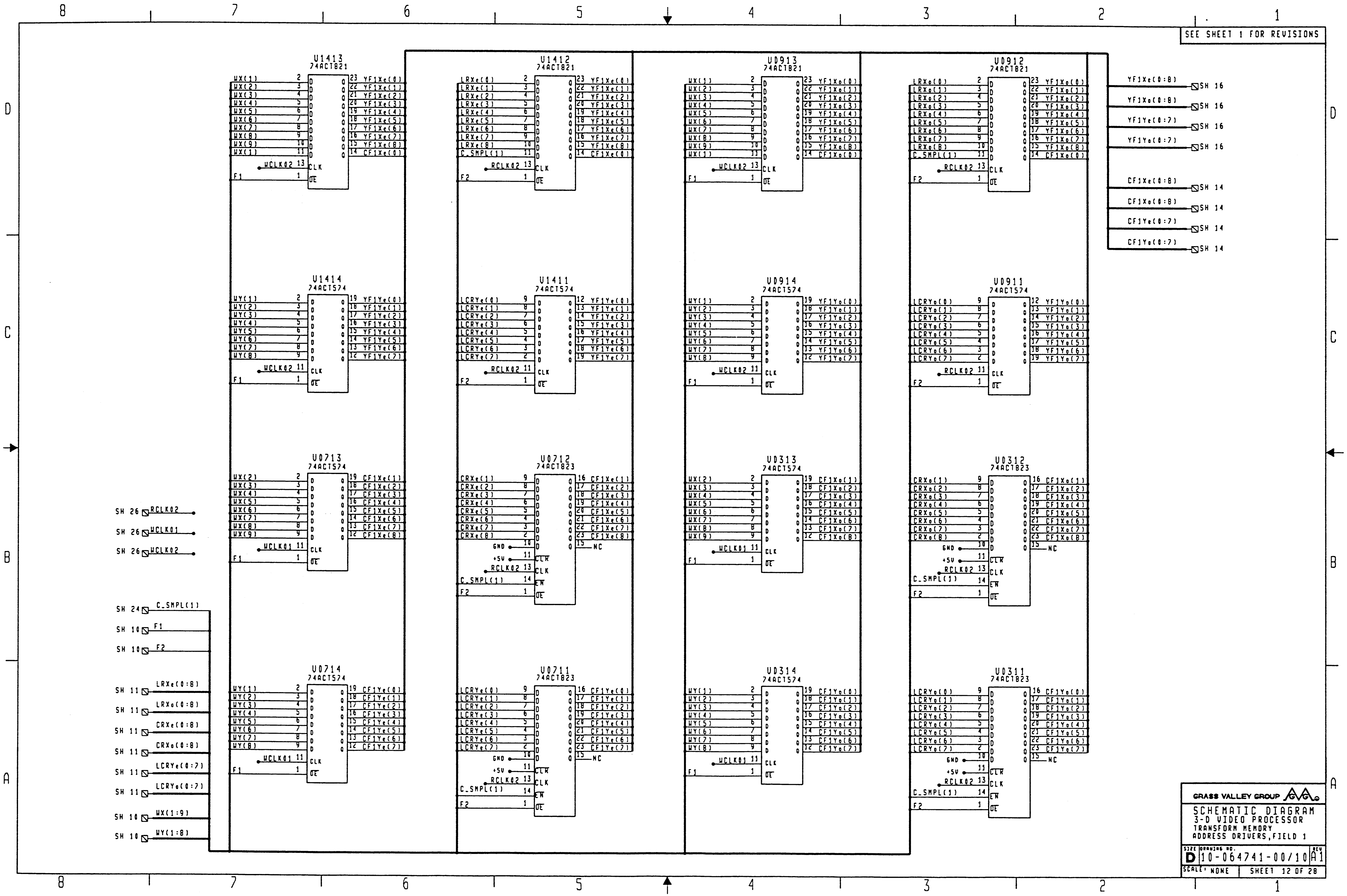
GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
3-D VIDEO PROCESSOR
WRITE ADDRESS GENERATOR
ADDRESS CONTROL

SIZE D DRAWING NO. 10-064741-00/10 REV A1

SCALE: NONE SHEET 11 OF 28

SEE SHEET 1 FOR REVISIONS

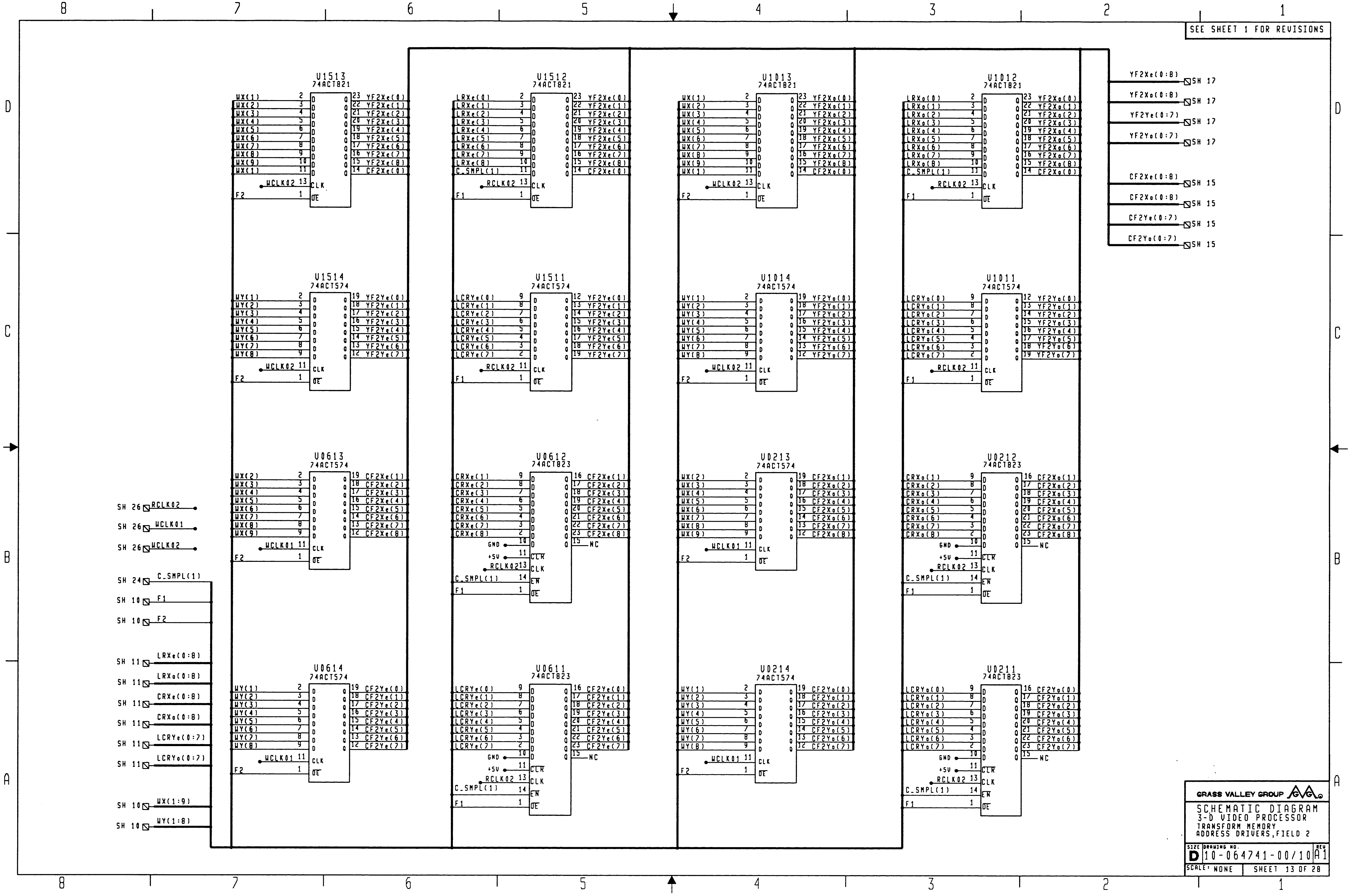

U1413
74ACT821
U1412
74ACT821
U0913
74ACT821
U0912
74ACT821
U1414
74ACT574
U1411
74ACT574
U0914
74ACT574
U0911
74ACT574
U0713
74ACT574
U0712
74ACT823
U0313
74ACT574
U0312
74ACT823
U0714
74ACT574
U0711
74ACT823
U0314
74ACT574
U0311
74ACT823
YF1Xe(0:8) SH 16
YF1Xo(0:8) SH 16
YF1Ye(0:7) SH 16
YF1Yo(0:7) SH 16
CF1Xe(0:8) SH 14
CF1Xo(0:8) SH 14
CF1Ye(0:7) SH 14
CF1Yo(0:7) SH 14
SH 26 RCLK02
SH 26 WCLK01
SH 26 WCLK02
SH 24 C_SMPL(1)
SH 10 F1
SH 10 F2
SH 11 LRXe(0:8)
SH 11 LRXo(0:8)
SH 11 CRXe(0:8)
SH 11 CRXo(0:8)
SH 11 LCRYe(0:7)
SH 11 LCRYo(0:7)
SH 10 WX(1:9)
SH 10 WY(1:8)
CLK
OE
EN
CLR
GND
+5V
NC
8
7
6
5
4
3
2
1
D
C
B
A

GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
3-D VIDEO PROCESSOR
TRANSFORM MEMORY
ADDRESS DRIVERS, FIELD 1

SIZE	DRAWING NO.	REV
D	10-064741-00/10	A1

SCALE: NONE | SHEET 12 OF 28



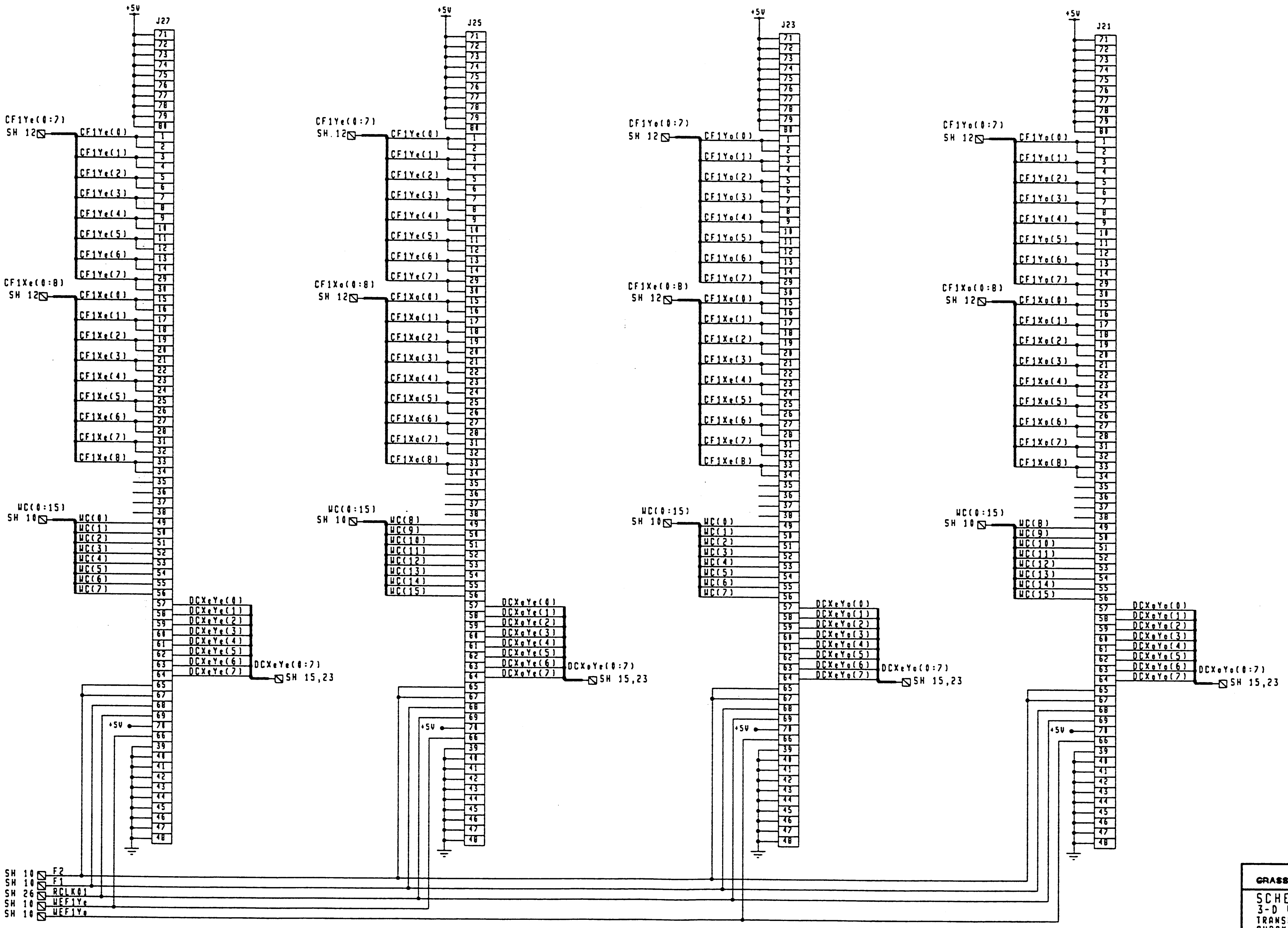
SEE SHEET 1 FOR REVISIONS
U1513 74ACT821
U1512 74ACT821
U1013 74ACT821
U1012 74ACT821
U1514 74ACT574
U1511 74ACT574
U1014 74ACT574
U1011 74ACT574
U0613 74ACT574
U0612 74ACT823
U0213 74ACT574
U0212 74ACT823
U0614 74ACT574
U0611 74ACT823
U0214 74ACT574
U0211 74ACT823
D
Q
CLK
OE
CLR
EN
WX(1:9)
WY(1:8)
LRXe(0:8)
LRXo(0:8)
CRXe(0:8)
CRXo(0:8)
LCRYe(0:7)
LCRYo(0:7)
C_SMPL(1)
F1
F2
RCLK02
WCLK01
WCLK02
GND
+5V
NC
YF2Xe(0:8)
YF2Xo(0:8)
YF2Ye(0:7)
YF2Yo(0:7)
CF2Xe(0:8)
CF2Xo(0:8)
CF2Ye(0:7)
CF2Yo(0:7)
SH 26
SH 24
SH 10
SH 11
SH 17
SH 15

GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
3-D VIDEO PROCESSOR
TRANSFORM MEMORY
ADDRESS DRIVERS,FIELD 2

SIZE D
DRAWING NO. 10-064741-00/10
REV A1
SCALE: NONE
SHEET 13 OF 28

SEE SHEET 1 FOR REVISIONS



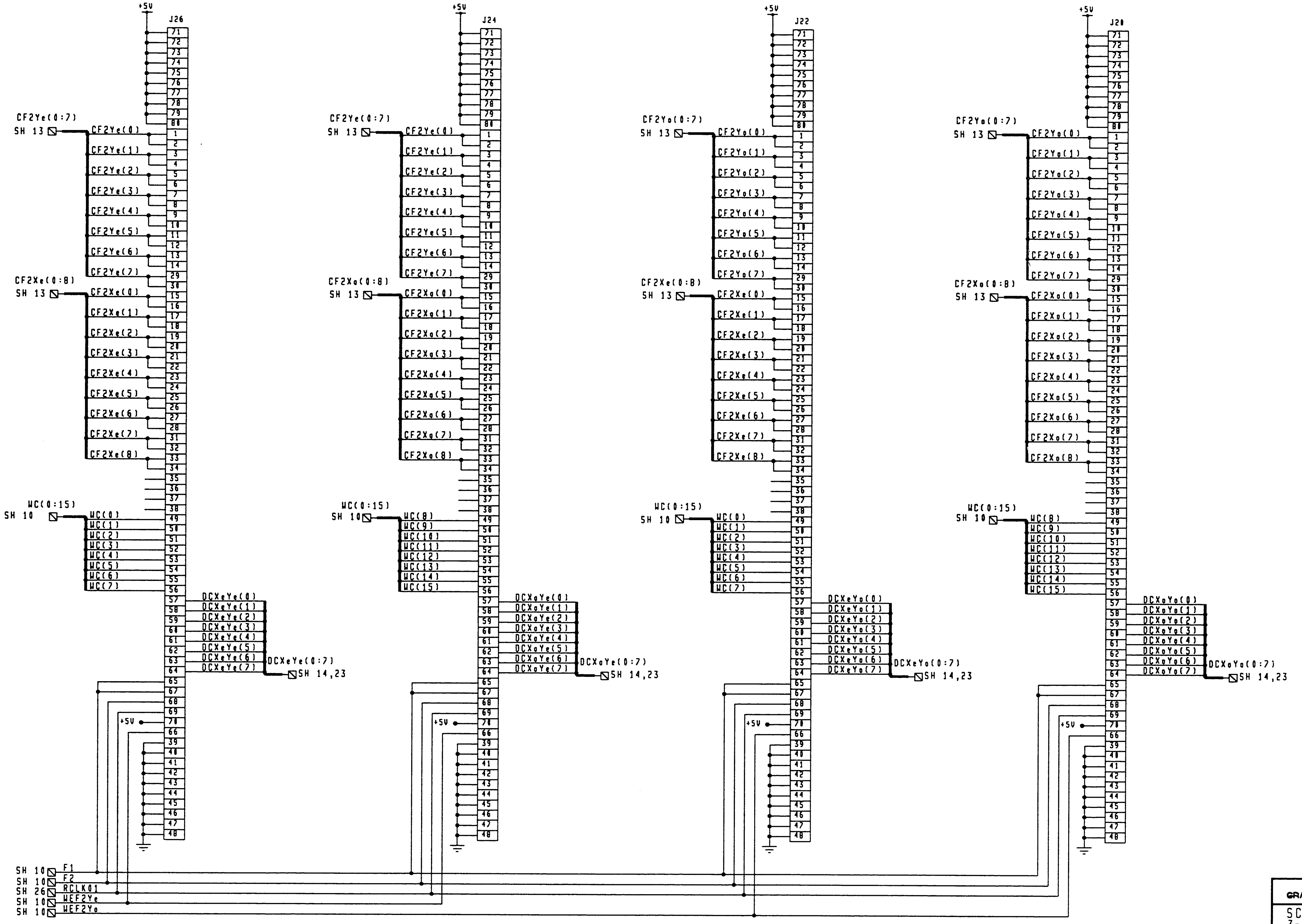
J27
J25
J23
J21
+5V
CF1Ye(0:7) SH 12
CF1Xe(0:8) SH 12
CF1Xo(0:8) SH 12
CF1Yo(0:7) SH 12
WC(0:15) SH 10
DCXeYe(0:7) SH 15,23
DCXoYe(0:7) SH 15,23
DCXeYo(0:7) SH 15,23
DCXoYo(0:7) SH 15,23
SH 10 F2
SH 10 F1
SH 26 RCLK01
SH 10 WEF1Ye
SH 10 WEF1Yo

GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
3-D VIDEO PROCESSOR
TRANSFORM MEMORY
CHROMA FIELD 1

SIZE	DRAWING NO.	REV
D	10-064741-00/10	A1
SCALE: NONE	SHEET 14 OF 28	

SEE SHEET 1 FOR REVISIONS



J26
J24
J22
J20
+5V
CF2Ye(0:7)
SH 13
CF2Yo(0:7)
CF2Xe(0:8)
CF2Xo(0:8)
WC(0:15)
SH 10
DCXeYe(0:7)
DCXoYe(0:7)
DCXeYo(0:7)
DCXoYo(0:7)
SH 14,23
SH 10 F1
SH 10 F2
SH 26 RCLK01
SH 10 WEF2Ye
SH 10 WEF2Yo

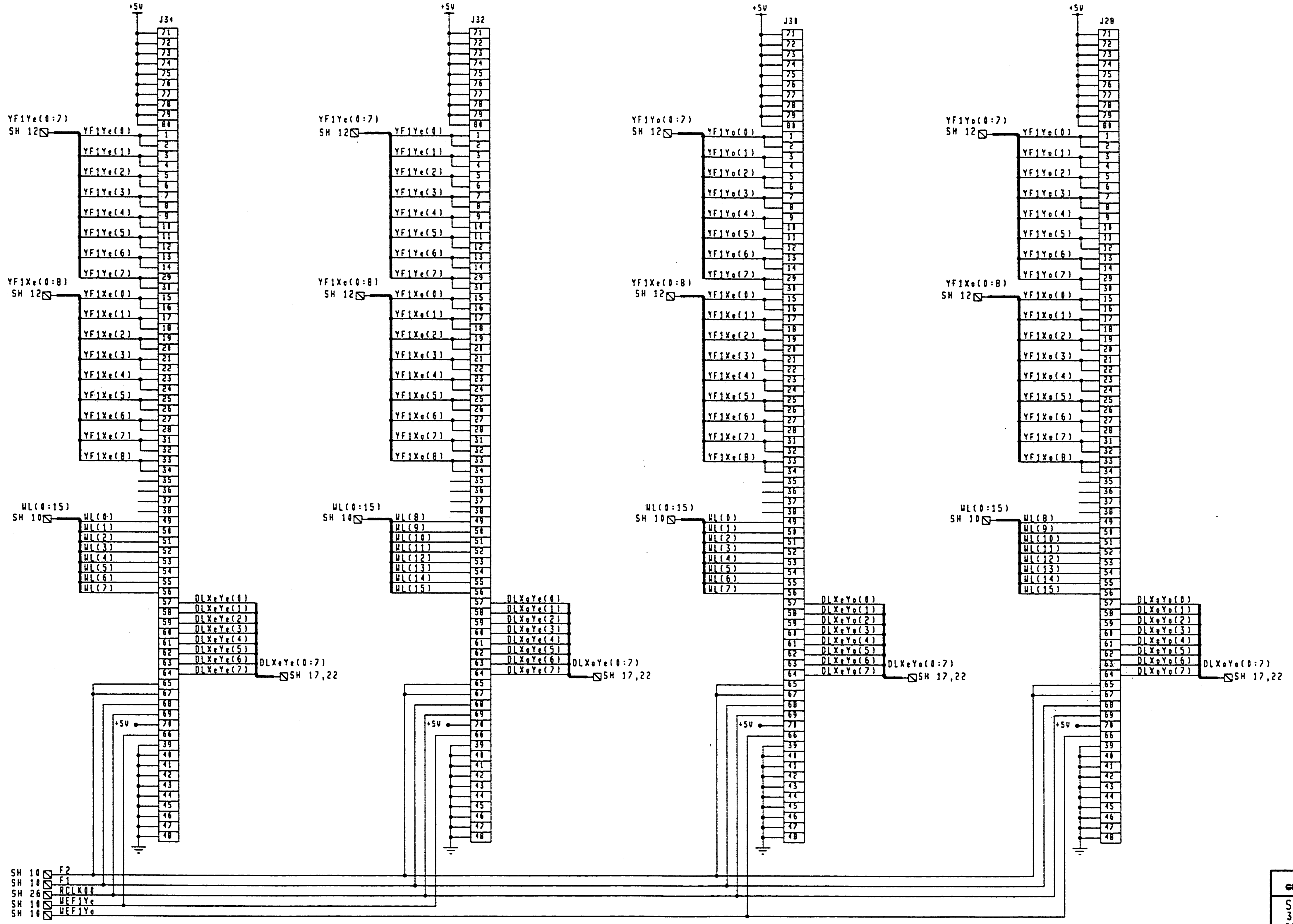
GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
3-D VIDEO PROCESSOR
TRANSFORM MEMORY
CHROMA FIELD 2

SIZE D | DRAWING NO. 10-064741-00/10 | REV A1

SCALE: NONE | SHEET 15 OF 28

SEE SHEET 1 FOR REVISIONS



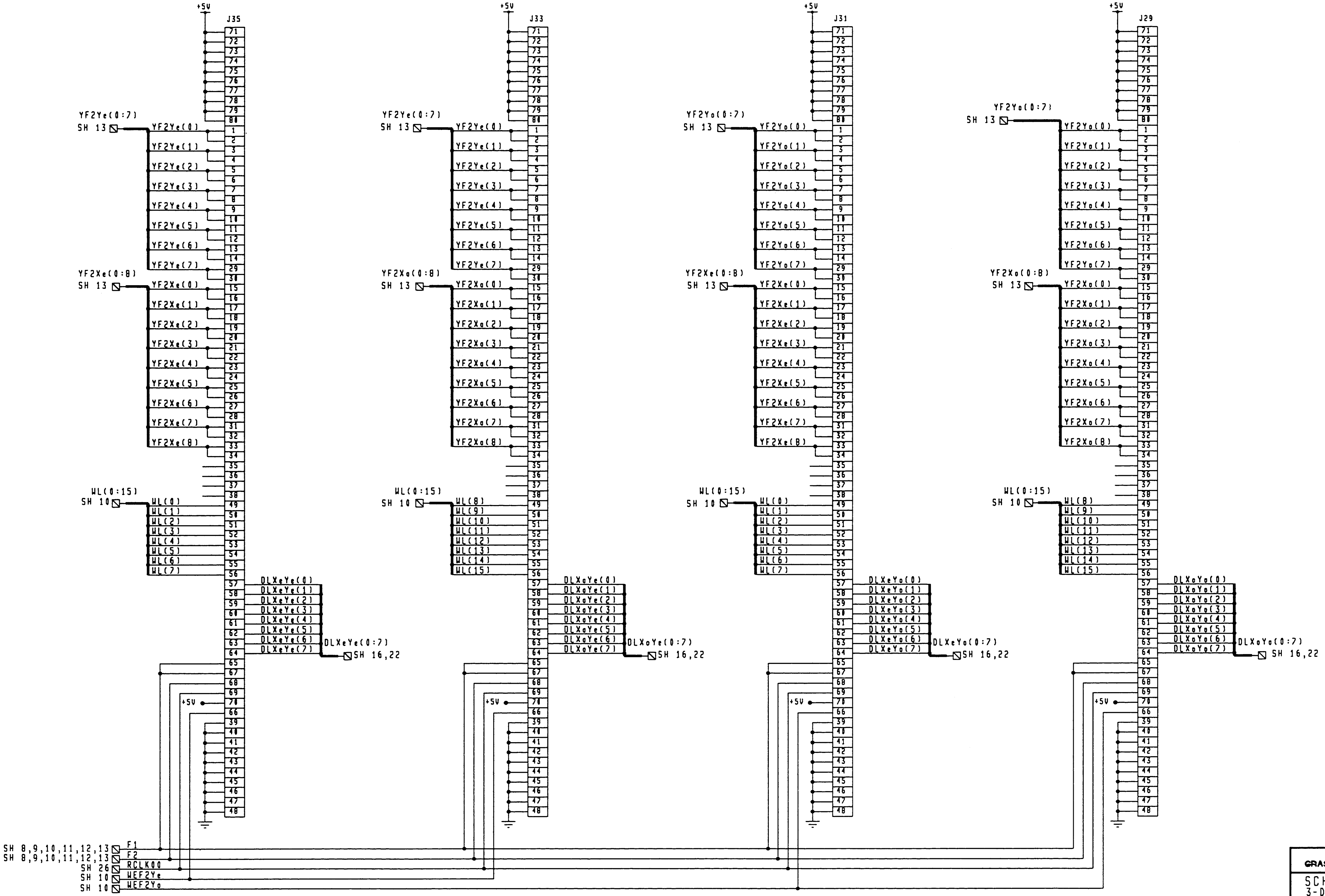
+5V
J34
J32
J30
J28
YF1Ye(0:7) SH 12
YF1Ye(0) YF1Ye(1) YF1Ye(2) YF1Ye(3) YF1Ye(4) YF1Ye(5) YF1Ye(6) YF1Ye(7)
YF1Yo(0:7) SH 12
YF1Yo(0) YF1Yo(1) YF1Yo(2) YF1Yo(3) YF1Yo(4) YF1Yo(5) YF1Yo(6) YF1Yo(7)
YF1Xe(0:8) SH 12
YF1Xe(0) YF1Xe(1) YF1Xe(2) YF1Xe(3) YF1Xe(4) YF1Xe(5) YF1Xe(6) YF1Xe(7) YF1Xe(8)
YF1Xo(0:8) SH 12
YF1Xo(0) YF1Xo(1) YF1Xo(2) YF1Xo(3) YF1Xo(4) YF1Xo(5) YF1Xo(6) YF1Xo(7) YF1Xo(8)
WL(0:15) SH 10
WL(0) WL(1) WL(2) WL(3) WL(4) WL(5) WL(6) WL(7)
WL(8) WL(9) WL(10) WL(11) WL(12) WL(13) WL(14) WL(15)
DLXeYe(0) DLXeYe(1) DLXeYe(2) DLXeYe(3) DLXeYe(4) DLXeYe(5) DLXeYe(6) DLXeYe(7)
DLXeYe(0:7) SH 17,22
DLXoYe(0) DLXoYe(1) DLXoYe(2) DLXoYe(3) DLXoYe(4) DLXoYe(5) DLXoYe(6) DLXoYe(7)
DLXoYe(0:7) SH 17,22
DLXeYo(0) DLXeYo(1) DLXeYo(2) DLXeYo(3) DLXeYo(4) DLXeYo(5) DLXeYo(6) DLXeYo(7)
DLXeYo(0:7) SH 17,22
DLXoYo(0) DLXoYo(1) DLXoYo(2) DLXoYo(3) DLXoYo(4) DLXoYo(5) DLXoYo(6) DLXoYo(7)
DLXoYo(0:7) SH 17,22
SH 10 F2
SH 10 F1
SH 26 RCLK00
SH 10 WEF1Ye
SH 10 WEF1Yo

GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
3-D VIDEO PROCESSOR
TRANSFORM MEMORY
LUMA FIELD 1

SIZE	DRAWING NO.	REV
D	10-064741-00/10	A1
SCALE: NONE	SHEET 16 OF 28	

SEE SHEET 1 FOR REVISIONS

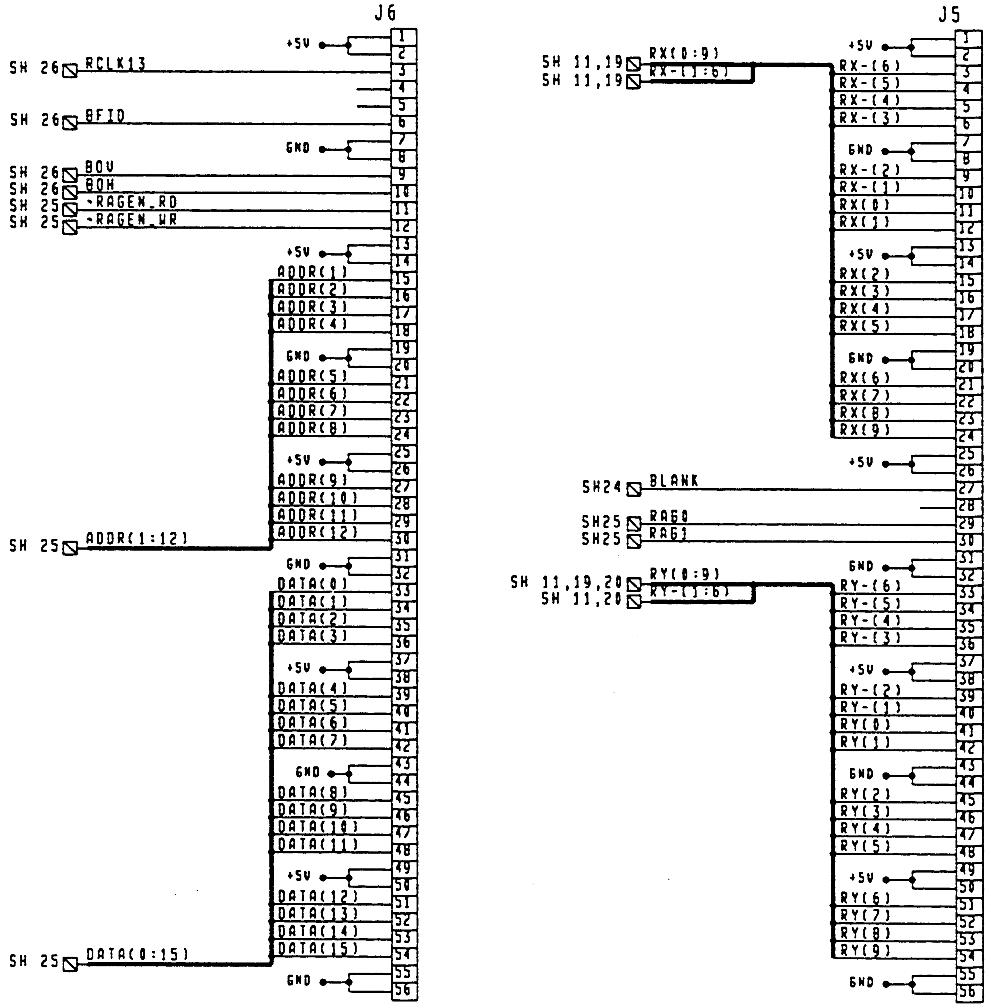

+5V
J35
YF2Ye(0:7)
SH 13
YF2Ye(0)
YF2Ye(1)
YF2Ye(2)
YF2Ye(3)
YF2Ye(4)
YF2Ye(5)
YF2Ye(6)
YF2Ye(7)
YF2Xe(0:8)
SH 13
YF2Xe(0)
YF2Xe(1)
YF2Xe(2)
YF2Xe(3)
YF2Xe(4)
YF2Xe(5)
YF2Xe(6)
YF2Xe(7)
YF2Xe(8)
WL(0:15)
SH 10
WL(0)
WL(1)
WL(2)
WL(3)
WL(4)
WL(5)
WL(6)
WL(7)
DLXeYe(0)
DLXeYe(1)
DLXeYe(2)
DLXeYe(3)
DLXeYe(4)
DLXeYe(5)
DLXeYe(6)
DLXeYe(7)
DLXeYe(0:7)
SH 16,22
+5V
J33
YF2Ye(0:7)
SH 13
YF2Ye(0)
YF2Ye(1)
YF2Ye(2)
YF2Ye(3)
YF2Ye(4)
YF2Ye(5)
YF2Ye(6)
YF2Ye(7)
YF2Xo(0:8)
SH 13
YF2Xo(0)
YF2Xo(1)
YF2Xo(2)
YF2Xo(3)
YF2Xo(4)
YF2Xo(5)
YF2Xo(6)
YF2Xo(7)
YF2Xo(8)
WL(0:15)
SH 10
WL(8)
WL(9)
WL(10)
WL(11)
WL(12)
WL(13)
WL(14)
WL(15)
DLXoYe(0)
DLXoYe(1)
DLXoYe(2)
DLXoYe(3)
DLXoYe(4)
DLXoYe(5)
DLXoYe(6)
DLXoYe(7)
DLXoYe(0:7)
SH 16,22
+5V
J31
YF2Yo(0:7)
SH 13
YF2Yo(0)
YF2Yo(1)
YF2Yo(2)
YF2Yo(3)
YF2Yo(4)
YF2Yo(5)
YF2Yo(6)
YF2Yo(7)
YF2Xe(0:8)
SH 13
YF2Xe(0)
YF2Xe(1)
YF2Xe(2)
YF2Xe(3)
YF2Xe(4)
YF2Xe(5)
YF2Xe(6)
YF2Xe(7)
YF2Xe(8)
WL(0:15)
SH 10
WL(0)
WL(1)
WL(2)
WL(3)
WL(4)
WL(5)
WL(6)
WL(7)
DLXeYo(0)
DLXeYo(1)
DLXeYo(2)
DLXeYo(3)
DLXeYo(4)
DLXeYo(5)
DLXeYo(6)
DLXeYo(7)
DLXeYo(0:7)
SH 16,22
+5V
J29
YF2Yo(0:7)
SH 13
YF2Yo(0)
YF2Yo(1)
YF2Yo(2)
YF2Yo(3)
YF2Yo(4)
YF2Yo(5)
YF2Yo(6)
YF2Yo(7)
YF2Xo(0:8)
SH 13
YF2Xo(0)
YF2Xo(1)
YF2Xo(2)
YF2Xo(3)
YF2Xo(4)
YF2Xo(5)
YF2Xo(6)
YF2Xo(7)
YF2Xo(8)
WL(0:15)
SH 10
WL(8)
WL(9)
WL(10)
WL(11)
WL(12)
WL(13)
WL(14)
WL(15)
DLXoYo(0)
DLXoYo(1)
DLXoYo(2)
DLXoYo(3)
DLXoYo(4)
DLXoYo(5)
DLXoYo(6)
DLXoYo(7)
DLXoYo(0:7)
SH 16,22
SH 8,9,10,11,12,13 F1
SH 8,9,10,11,12,13 F2
SH 26 RCLK00
SH 10 WEF2Ye
SH 10 WEF2Yo

GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
3-D VIDEO PROCESSOR
TRANSFORM MEMORY
LUMA FIELD 2

SIZE D
DRAWING NO. 10-064741-00/10
REV A1
SCALE: NONE
SHEET 17 OF 28

SEE SHEET 1 FOR REVISIONS


J6
+5V
SH 26 RCLK13
SH 26 BFID
GND
SH 26 BOV
SH 26 BOH
SH 25 -RAGEN_RD
SH 25 -RAGEN_WR
+5V
ADDR(1)
ADDR(2)
ADDR(3)
ADDR(4)
GND
ADDR(5)
ADDR(6)
ADDR(7)
ADDR(8)
+5V
ADDR(9)
ADDR(10)
ADDR(11)
ADDR(12)
SH 25 ADDR(1:12)
GND
DATA(0)
DATA(1)
DATA(2)
DATA(3)
+5V
DATA(4)
DATA(5)
DATA(6)
DATA(7)
GND
DATA(8)
DATA(9)
DATA(10)
DATA(11)
+5V
DATA(12)
DATA(13)
DATA(14)
DATA(15)
SH 25 DATA(0:15)
GND
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
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41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
J5
+5V
SH 11,19 RX(0:9)
SH 11,19 RX-(1:6)
RX-(6)
RX-(5)
RX-(4)
RX-(3)
GND
RX-(2)
RX-(1)
RX(0)
RX(1)
+5V
RX(2)
RX(3)
RX(4)
RX(5)
GND
RX(6)
RX(7)
RX(8)
RX(9)
+5V
SH24 BLANK
SH25 RAG0
SH25 RAG1
GND
SH 11,19,20 RY(0:9)
SH 11,20 RY-(1:6)
RY-(6)
RY-(5)
RY-(4)
RY-(3)
+5V
RY-(2)
RY-(1)
RY(0)
RY(1)
GND
RY(2)
RY(3)
RY(4)
RY(5)
+5V
RY(6)
RY(7)
RY(8)
RY(9)
GND
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
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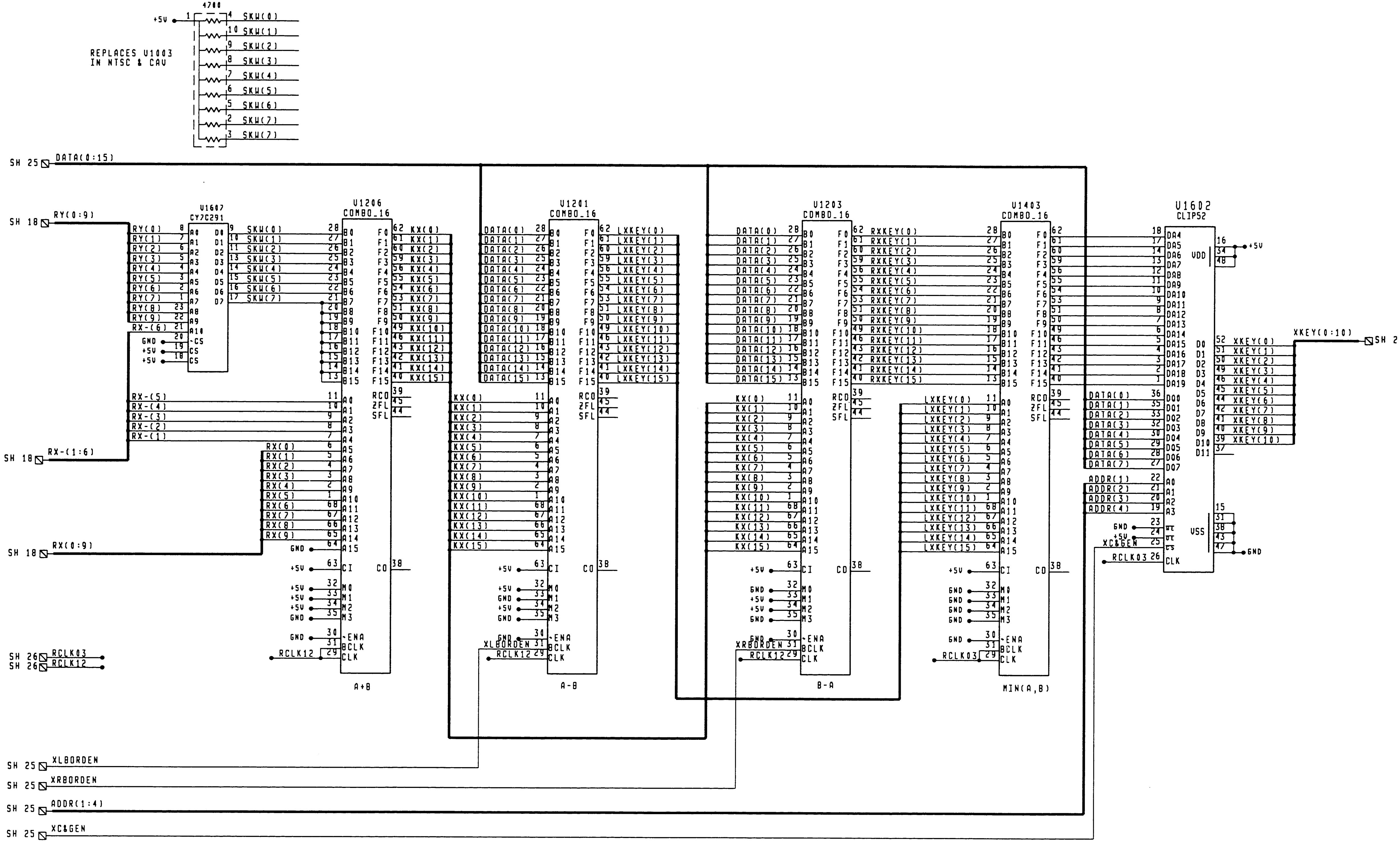
56

GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
3-D VIDEO PROCESSOR
RAG MEZZANINE

SIZE D
DRAWING NO. 10-064741-00/10
REV A1
SCALE: NONE
SHEET 18 OF 28

SEE SHEET 1 FOR REVISIONS


RN7
4700
REPLACES U1003 IN NTSC & CAV
+5V
SKU(0)
SKU(1)
SKU(2)
SKU(3)
SKU(4)
SKU(5)
SKU(6)
SKU(7)
SH 25 DATA(0:15)
SH 18 RY(0:9)
U1607
CY7C291
SH 18 RX-(1:6)
SH 18 RX(0:9)
SH 26 RCLK03
SH 26 RCLK12
U1206
COMBO_16
A+B
KX(0)
KX(15)
U1201
COMBO_16
A-B
LXKEY(0)
LXKEY(15)
XLBORDEN
RCLK12
U1203
COMBO_16
B-A
RXKEY(0)
RXKEY(15)
XRBORDEN
U1403
COMBO_16
MIN(A,B)
RCLK03
U1602
CLIP52
VDD
VSS
XKEY(0:10)
SH 21
ADDR(1)
ADDR(4)
XC&GEN
GND
SH 25 XLBORDEN
SH 25 XRBORDEN
SH 25 ADDR(1:4)
SH 25 XC&GEN

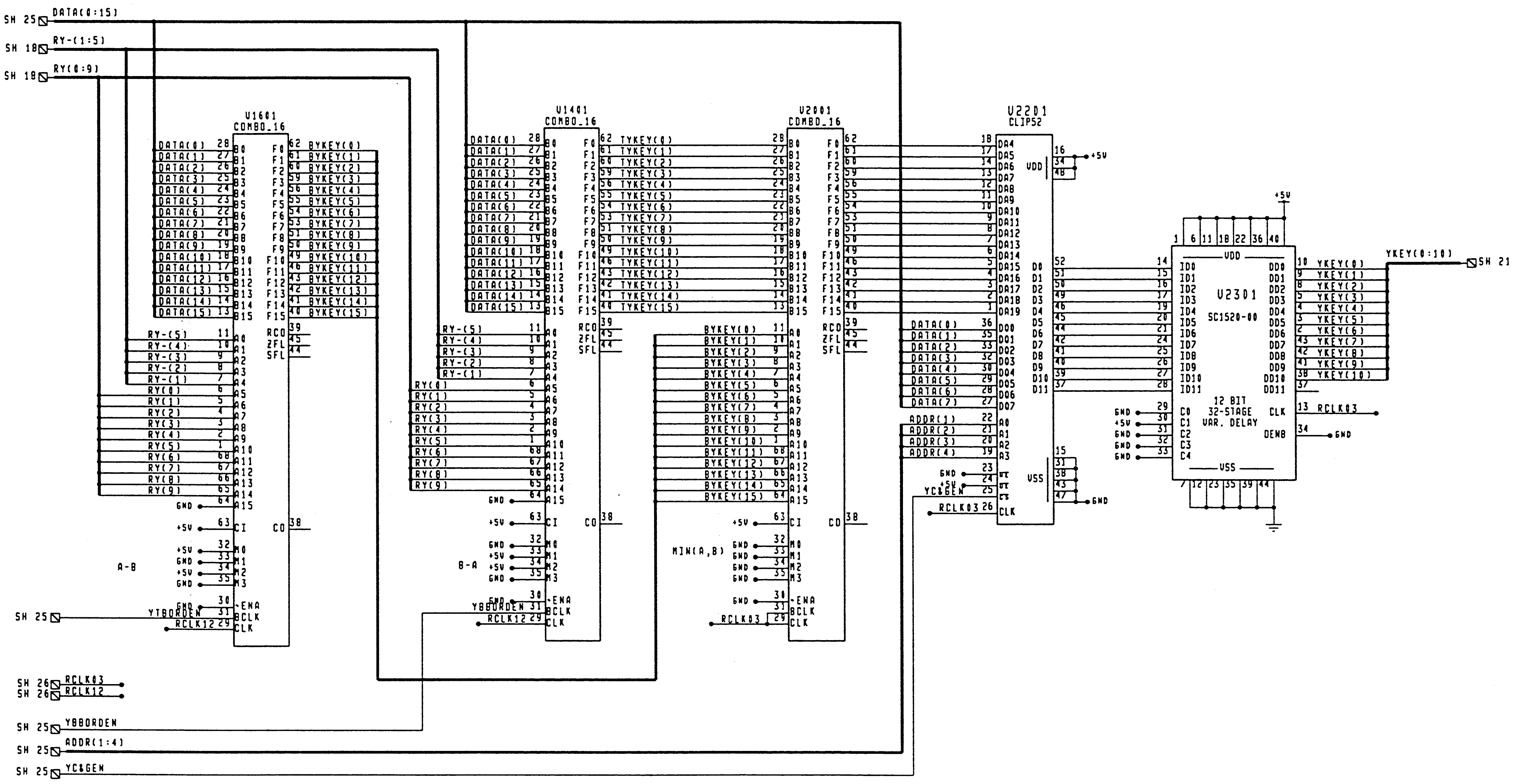
GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
3-D VIDEO PROCESSOR
CROP
HORIZONTAL SHAPING

SIZE D DRAWING NO. 10-064741-00/10 REV A1

SCALE: NONE SHEET 19 OF 28

SEE SHEET 1 FOR REVISIONS


SH 25 DATA(0:15)
SH 18 RY-(1:5)
SH 18 RY(0:9)
U1601
COMBO_16
U1401
COMBO_16
U2001
COMBO_16
U2201
CLIP52
U2301
SC1520-00
12 BIT
32-STAGE
VAR. DELAY
BYKEY(0)–BYKEY(15)
TYKEY(0)–TYKEY(15)
YKEY(0:10)
SH 21
A-B
B-A
MIN(A,B)
SH 25 YTBORDEN
RCLK12
RCLK03
SH 26 RCLK03
SH 26 RCLK12
SH 25 YBBORDEN
SH 25 ADDR(1:4)
SH 25 YC&GEN
+5V
GND

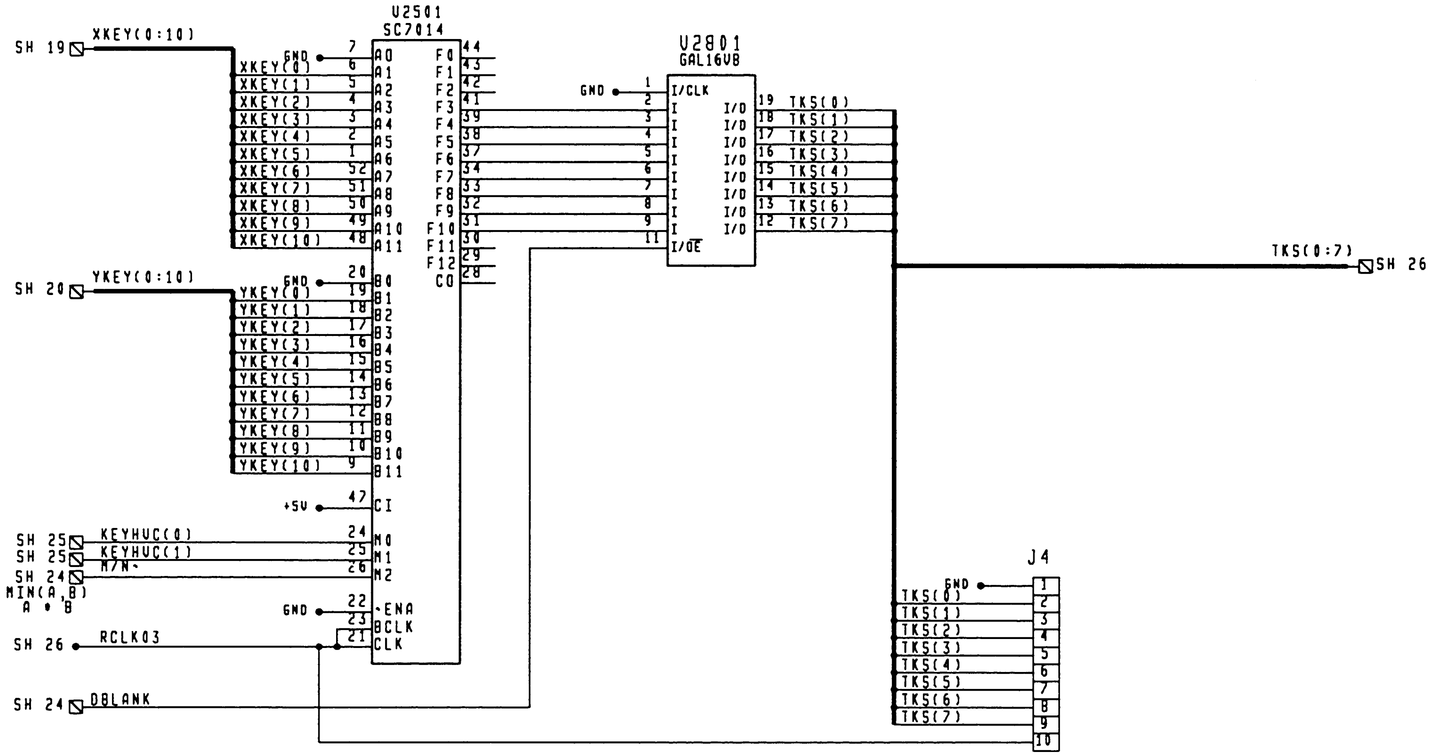
GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
3-D VIDEO PROCESSOR
CROP
VERTICAL SHAPING

SIZE	DRAWING NO.	REV
D	10-064741-00/10	A1

SCALE: NONE | SHEET 20 OF 28

SEE SHEET 1 FOR REVISIONS

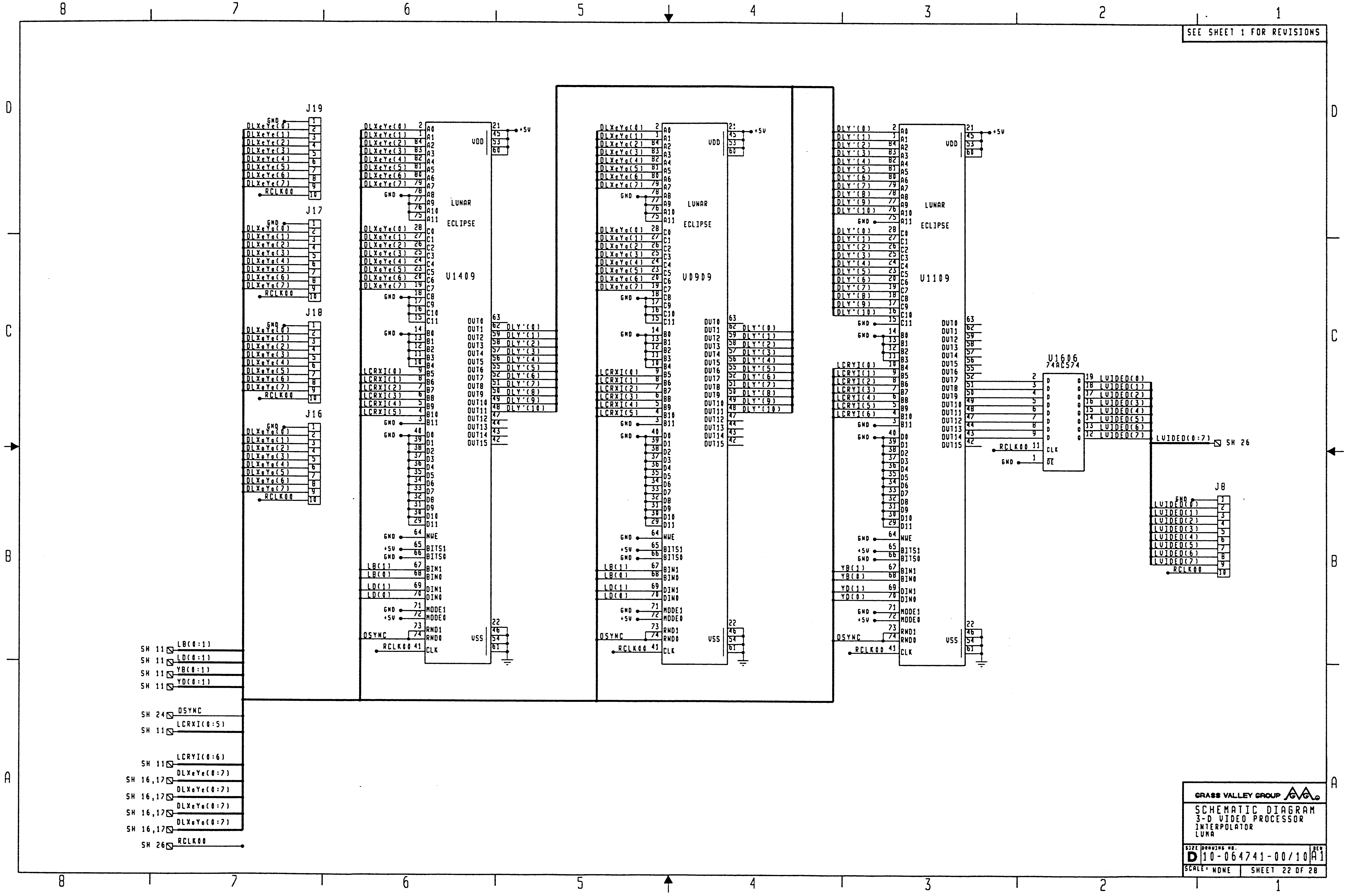

U2501
SC7014
SH 19
XKEY(0:10)
XKEY(0)
XKEY(1)
XKEY(2)
XKEY(3)
XKEY(4)
XKEY(5)
XKEY(6)
XKEY(7)
XKEY(8)
XKEY(9)
XKEY(10)
GND
A0
A1
A2
A3
A4
A5
A6
A7
A8
A9
A10
A11
SH 20
YKEY(0:10)
YKEY(0)
YKEY(1)
YKEY(2)
YKEY(3)
YKEY(4)
YKEY(5)
YKEY(6)
YKEY(7)
YKEY(8)
YKEY(9)
YKEY(10)
B0
B1
B2
B3
B4
B5
B6
B7
B8
B9
B10
B11
+5V
CI
SH 25
KEYHUC(0)
SH 25
KEYHUC(1)
SH 24
M/N·
MIN(A,B)
A • B
M0
M1
M2
·ENA
BCLK
CLK
SH 26
RCLK03
SH 24
DBLANK
F0
F1
F2
F3
F4
F5
F6
F7
F8
F9
F10
F11
F12
CO
U2801
GAL16V8
I/CLK
I
I/OE
I/O
TKS(0)
TKS(1)
TKS(2)
TKS(3)
TKS(4)
TKS(5)
TKS(6)
TKS(7)
TKS(0:7)
SH 26
J4

GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
3-D VIDEO PROCESSOR
CROP, COMBINE HORIZONTAL,
VERTICAL; BLANKING

SIZE	DRAWING NO.	REV
D	10-064741-00/10	A1

SCALE: NONE | SHEET 21 OF 28

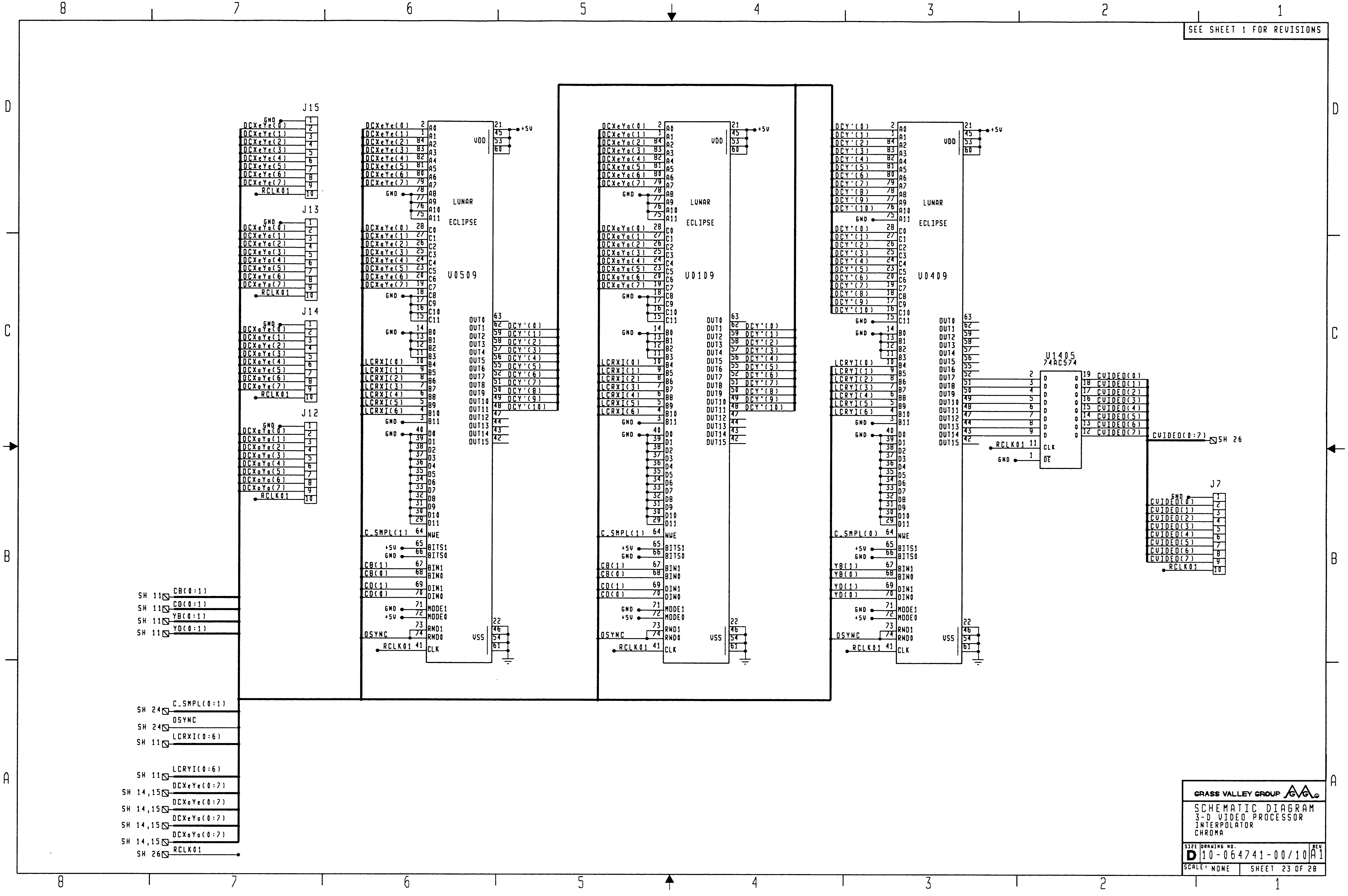

SEE SHEET 1 FOR REVISIONS
J19
J17
J18
J16
J8
GND
DLXeYe(0)
DLXeYe(1)
DLXeYe(2)
DLXeYe(3)
DLXeYe(4)
DLXeYe(5)
DLXeYe(6)
DLXeYe(7)
DLXeYo(0:7)
DLXoYe(0:7)
DLXoYo(0:7)
RCLK00
LUNAR
ECLIPSE
U1409
U0909
U1109
U1606
74AC574
VDD
VSS
+5V
A0
A1
A2
A3
A4
A5
A6
A7
A8
A9
A10
A11
C0
C1
C2
C3
C4
C5
C6
C7
C8
C9
C10
C11
B0
B1
B2
B3
B4
B5
B6
B7
B8
B9
B10
B11
D0
D1
D2
D3
D4
D5
D6
D7
D8
D9
D10
D11
NWE
BITS1
BITS0
BIN1
BIN0
DIN1
DIN0
MODE1
MODE0
RND1
RND0
CLK
OUT0
OUT1
OUT2
OUT3
OUT4
OUT5
OUT6
OUT7
OUT8
OUT9
OUT10
OUT11
OUT12
OUT13
OUT14
OUT15
DLY'(0)
DLY'(1)
DLY'(2)
DLY'(3)
DLY'(4)
DLY'(5)
DLY'(6)
DLY'(7)
DLY'(8)
DLY'(9)
DLY'(10)
LCRXI(0)
LCRXI(1)
LCRXI(2)
LCRXI(3)
LCRXI(4)
LCRXI(5)
LCRYI(0)
LCRYI(1)
LCRYI(2)
LCRYI(3)
LCRYI(4)
LCRYI(5)
LCRYI(6)
LB(1)
LB(0)
LD(1)
LD(0)
YB(1)
YB(0)
YD(1)
YD(0)
DSYNC
LVIDEO(0)
LVIDEO(1)
LVIDEO(2)
LVIDEO(3)
LVIDEO(4)
LVIDEO(5)
LVIDEO(6)
LVIDEO(7)
LVIDEO(0:7)
SH 26
OE
SH 11 LB(0:1)
SH 11 LD(0:1)
SH 11 YB(0:1)
SH 11 YD(0:1)
SH 24 DSYNC
SH 11 LCRXI(0:5)
SH 11 LCRYI(0:6)
SH 16,17 DLXeYe(0:7)
SH 16,17 DLXeYo(0:7)
SH 16,17 DLXoYe(0:7)
SH 16,17 DLXoYo(0:7)
SH 26 RCLK00
8
7
6
5
4
3
2
1
D
C
B
A

GRASS VALLEY GROUP GVG

SCHEMATIC DIAGRAM
3-D VIDEO PROCESSOR
INTERPOLATOR
LUMA

SIZE D DRAWING NO. 10-064741-00/10 REV A1

SCALE: NONE SHEET 22 OF 28

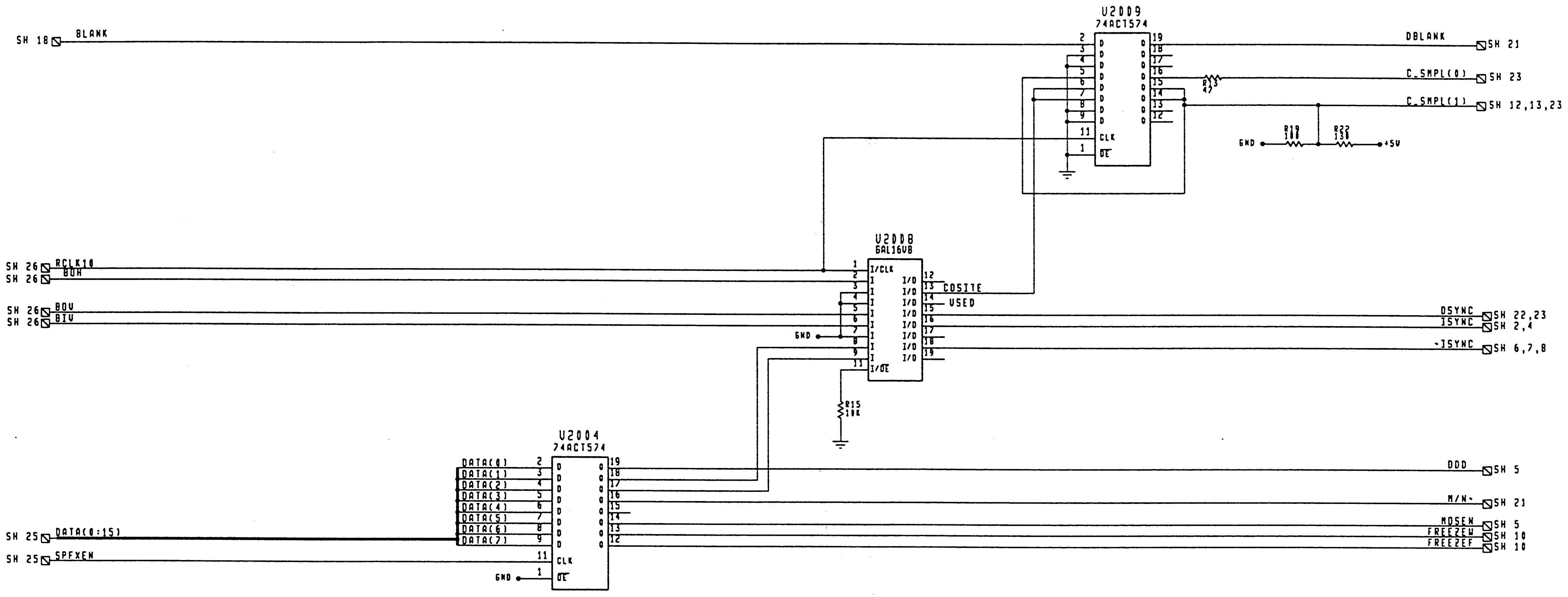

SEE SHEET 1 FOR REVISIONS
J15
J13
J14
J12
J7
U0509
U0109
U0409
LUNAR
ECLIPSE
U1405
74AC574
VDD
VSS
+5V
GND
RCLK01
CVIDEO(0:7)
SH 26
SH 11 CB(0:1)
SH 11 CD(0:1)
SH 11 YB(0:1)
SH 11 YD(0:1)
SH 24 C_SMPL(0:1)
SH 24 OSYNC
SH 11 LCRXI(0:6)
SH 11 LCRYI(0:6)
SH 14,15 DCXeYe(0:7)
SH 14,15 DCXoYe(0:7)
SH 14,15 DCXeYo(0:7)
SH 14,15 DCXoYo(0:7)
SH 26 RCLK01
DCY'(0:10)
NWE
BITS1
BITS0
BIN1
BIN0
DIN1
DIN0
MODE1
MODE0
RND1
RND0
CLK
OE
OUT0
OUT15

GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
3-D VIDEO PROCESSOR
INTERPOLATOR
CHROMA

SIZE D
DRAWING NO. 10-064741-00/10
REV A1
SCALE: NONE
SHEET 23 OF 28

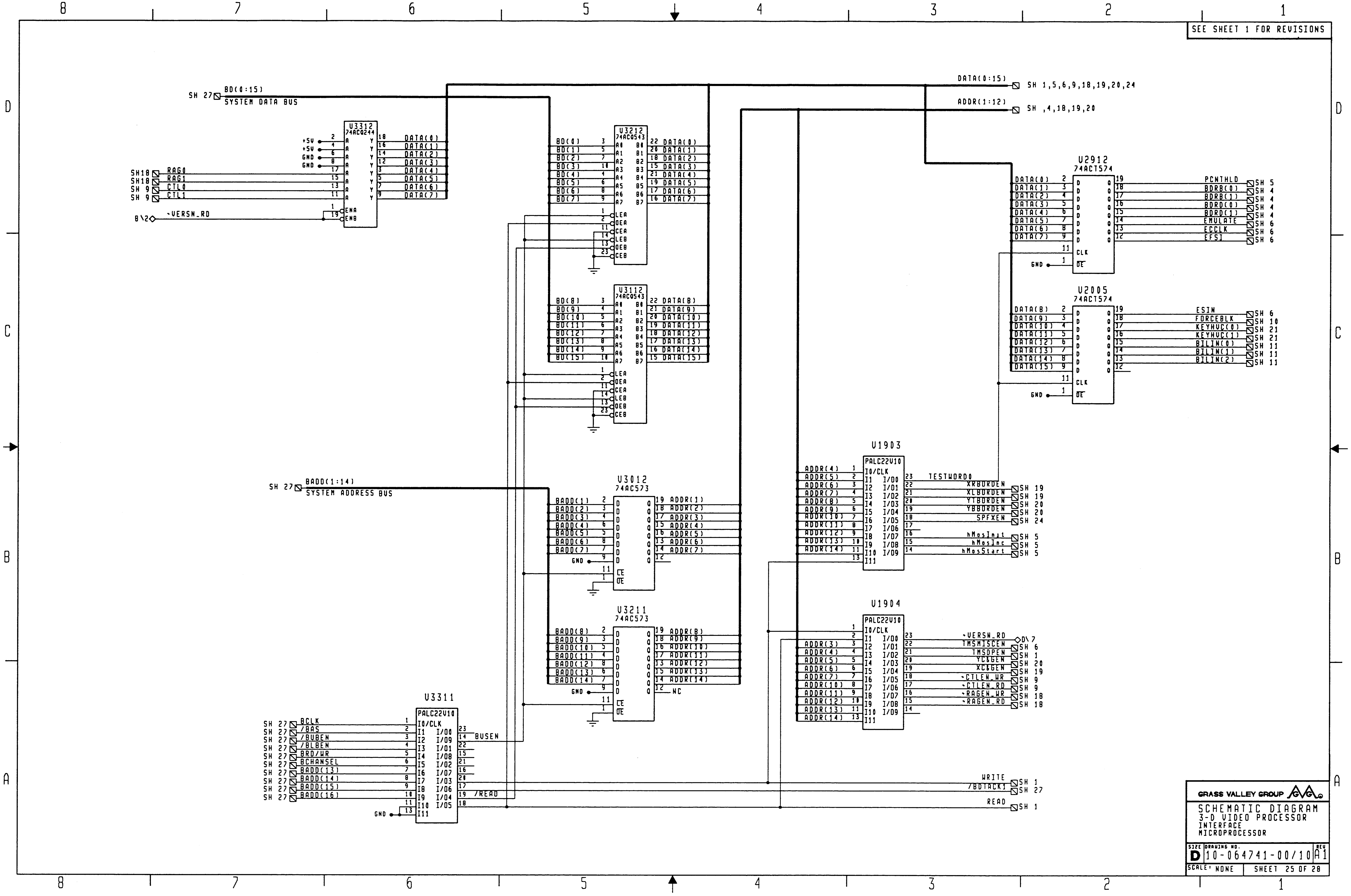
SEE SHEET 1 FOR REVISIONS


SH 18
BLANK
U2009
74ACT574
DBLANK
SH 21
C_SMPL(0)
SH 23
R13
47
C_SMPL(1)
SH 12,13,23
GND
R19
180
R22
130
+5V
CLK
OE
U2008
GAL16V8
SH 26
RCLK10
SH 26
BOH
SH 26
BOV
SH 26
BIV
GND
I/CLK
I/OE
COSITE
USED
DSYNC
SH 22,23
ISYNC
SH 2,4
-ISYNC
SH 6,7,8
R15
10K
U2004
74ACT574
DATA(0)
DATA(1)
DATA(2)
DATA(3)
DATA(4)
DATA(5)
DATA(6)
DATA(7)
SH 25
DATA(0:15)
SH 25
SPFXEN
GND
DDD
SH 5
M/N-
SH 21
MOSEN
SH 5
FREEZEW
SH 10
FREEZEF
SH 10

GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
3-D VIDEO PROCESSOR
CONTROL SPFX LATCH,
PITHER CTRL,COSITE CTRL

SIZE	DRAWING NO.	REV
D	10-064741-00/10	A1
SCALE: NONE	SHEET 24 OF 28	

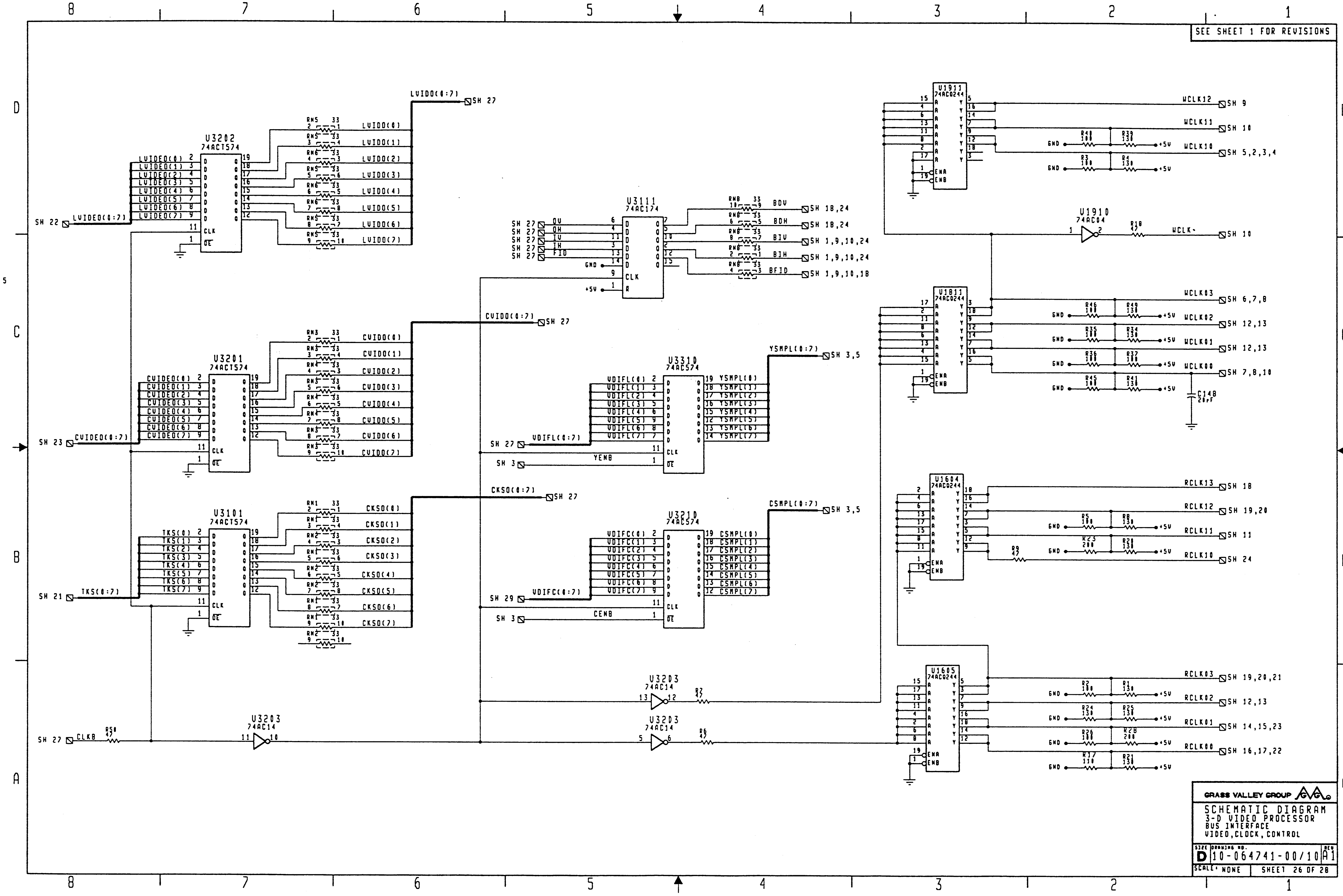

SEE SHEET 1 FOR REVISIONS
SH 27 BD(0:15) SYSTEM DATA BUS
DATA(0:15) SH 1,5,6,9,18,19,20,24
ADDR(1:12) SH ,4,18,19,20
U3312 74ACQ244
SH18 RAG0
SH18 RAG1
SH 9 CTL0
SH 9 CTL1
B\2 ~VERSN_RD
+5V
GND
ENA
ENB
U3212 74ACQ543
U3112 74ACQ543
LEA OEA CEA LEB OEB CEB
U2912 74ACT574
PCNTHLD SH 5
BDRB(0) SH 4
BDRB(1) SH 4
BDRD(0) SH 4
BDRD(1) SH 4
EMULATE SH 6
ECCLK SH 6
EFSI SH 6
U2005 74ACT574
ESIN SH 6
FORCEBLK SH 10
KEYHUC(0) SH 21
KEYHUC(1) SH 21
BILIN(0) SH 11
BILIN(1) SH 11
BILIN(2) SH 11
CLK
OE
SH 27 BADD(1:14) SYSTEM ADDRESS BUS
U3012 74AC573
U3211 74AC573
NC
U1903 PALC22V10
TESTWORD0
XRBURDEN SH 19
XLBURDEN SH 19
YTBURDEN SH 20
YBBURDEN SH 20
SPFXEN SH 24
hMosInit SH 5
hMosInc SH 5
hMosStart SH 5
U1904 PALC22V10
~VERSN_RD D\7
TMSMISCEN SH 6
TMSOPEN SH 1
YCEGEN SH 20
XCEGEN SH 19
~CTLEN_WR SH 9
~CTLEN_RD SH 9
~RAGEN_WR SH 18
~RAGEN_RD SH 18
U3311 PALC22V10
SH 27 BCLK
SH 27 /BAS
SH 27 /BUBEN
SH 27 /BLBEN
SH 27 BRD/WR
SH 27 BCHANSEL
SH 27 BADD(13)
SH 27 BADD(14)
SH 27 BADD(15)
SH 27 BADD(16)
BUSEN
/READ
WRITE SH 1
/BDTACK1 SH 27
READ SH 1

GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
3-D VIDEO PROCESSOR
INTERFACE
MICROPROCESSOR

SIZE D DRAWING NO. 10-064741-00/10 REV A1
SCALE: NONE SHEET 25 OF 28

SEE SHEET 1 FOR REVISIONS

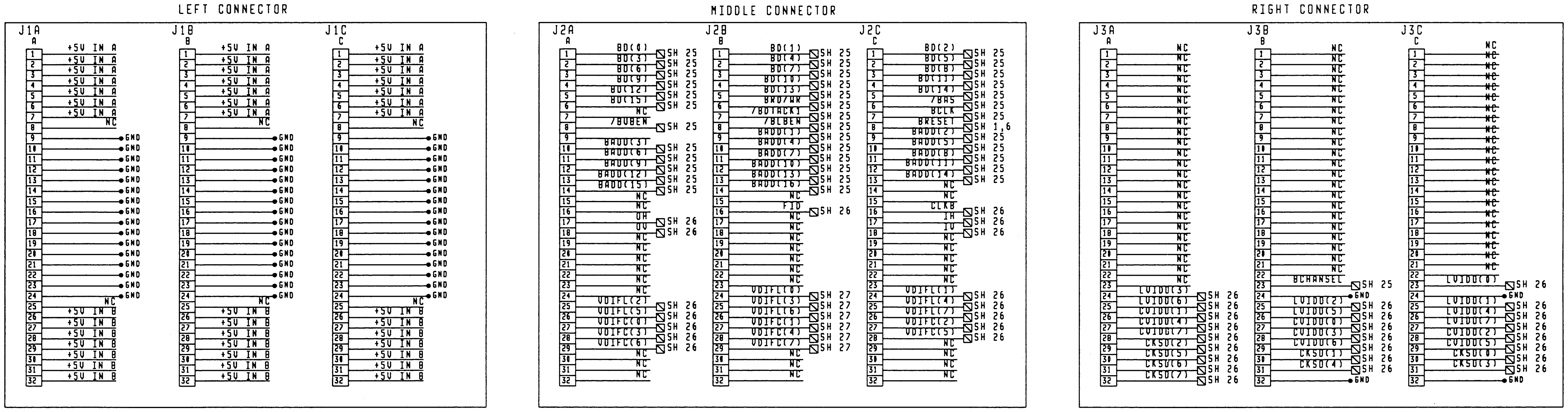

U3202
74ACT574
LVIDEO(0) … LVIDEO(7)
SH 22
LVIDEO(0:7)
LVIDO(0:7)
SH 27
LVIDO(0) … LVIDO(7)
RN5 33
RN6 33
U3201
74ACT574
CVIDEO(0) … CVIDEO(7)
SH 23
CVIDEO(0:7)
CVIDO(0:7)
CVIDO(0) … CVIDO(7)
RN3 33
RN4 33
U3101
74ACT574
TKS(0) … TKS(7)
SH 21
TKS(0:7)
CKSO(0:7)
CKSO(0) … CKSO(7)
RN1 33
RN2 33
CLK
OE
U3111
74AC174
SH 27 OV
SH 27 OH
SH 27 1V
SH 27 1H
SH 27 FID
GND
+5V
RN8 33
BOV
BOH
B1V
B1H
BFID
SH 18,24
SH 1,9,10,24
SH 1,9,10,18
U3310
74AC574
VDIFL(0) … VDIFL(7)
SH 27
VDIFL(0:7)
YENB
SH 3
YSMPL(0) … YSMPL(7)
YSMPL(0:7)
SH 3,5
U3210
74AC574
VDIFC(0) … VDIFC(7)
SH 29
VDIFC(0:7)
CENB
CSMPL(0) … CSMPL(7)
CSMPL(0:7)
U3203
74AC14
R7 47
R6 47
SH 27 CLKB
R50 47
U1911
74AC0244
ENA
ENB
WCLK12
SH 9
WCLK11
SH 10
WCLK10
SH 5,2,3,4
R40 100
R39 130
R3 100
R4 130
GND
+5V
U1910
74AC04
R18 47
WCLK~
SH 10
U1811
74AC0244
WCLK03
SH 6,7,8
WCLK02
SH 12,13
WCLK01
SH 12,13
WCLK00
SH 7,8,10
R46 100
R49 130
R35 100
R34 130
R36 100
R37 100
R45 100
R41 130
C148
20pF
U1604
74AC0244
RCLK13
SH 18
RCLK12
SH 19,20
RCLK11
SH 11
RCLK10
SH 24
R5 100
R8 130
R23 200
R21 130
R9 47
U1605
74AC0244
RCLK03
SH 19,20,21
RCLK02
SH 12,13
RCLK01
SH 14,15,23
RCLK00
SH 16,17,22
R2 100
R1 130
R24 100
R25 130
R26 100
R28 200
R17 110
R21 130
8 7 6 5 4 3 2 1
D C B A

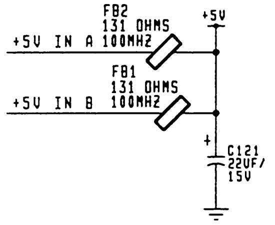
GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
3-D VIDEO PROCESSOR
BUS INTERFACE
VIDEO,CLOCK,CONTROL

SIZE D | DRAWING NO. 10-064741-00/10 | REV A1
SCALE: NONE | SHEET 26 OF 28

SEE SHEET 1 FOR REVISIONS


LEFT CONNECTOR
J1A A
J1B B
J1C C
1–7 +5V IN A
8 NC
9–24 GND
25 NC
26–32 +5V IN B
MIDDLE CONNECTOR
J2A A
BD(0) SH 25
BD(3) SH 25
BD(6) SH 25
BD(9) SH 25
BD(12) SH 25
BD(15) SH 25
NC
/BUBEN SH 25
BADD(3) SH 25
BADD(6) SH 25
BADD(9) SH 25
BADD(12) SH 25
BADD(15) SH 25
NC
NC
UH SH 26
UV SH 26
NC
VDIFL(2) SH 26
VDIFL(5) SH 26
VDIFC(0) SH 26
VDIFC(3) SH 26
VDIFC(6) SH 26
NC
J2B B
BD(1) SH 25
BD(4) SH 25
BD(7) SH 25
BD(10) SH 25
BD(13) SH 25
BRD/WR SH 25
/BDTACK1 SH 25
/BLBEN SH 25
BADD(1) SH 25
BADD(4) SH 25
BADD(7) SH 25
BADD(10) SH 25
BADD(13) SH 25
BADD(16) SH 25
NC
FID SH 26
NC
VDIFL(0) SH 27
VDIFL(3) SH 27
VDIFL(6) SH 27
VDIFC(1) SH 27
VDIFC(4) SH 27
VDIFC(7) SH 27
NC
J2C C
BD(2) SH 25
BD(5) SH 25
BD(8) SH 25
BD(11) SH 25
BD(14) SH 25
/BAS SH 25
BCLK SH 25
BRESET SH 1,6
BADD(2) SH 25
BADD(5) SH 25
BADD(8) SH 25
BADD(11) SH 25
BADD(14) SH 25
NC
CLKB SH 26
IH SH 26
IV SH 26
NC
VDIFL(1) SH 26
VDIFL(4) SH 26
VDIFL(7) SH 26
VDIFC(2) SH 26
VDIFC(5) SH 26
NC
RIGHT CONNECTOR
J3A A
NC
LVIDD(3) SH 26
LVIDD(6) SH 26
CVIDD(1) SH 26
CVIDD(4) SH 26
CVIDD(7) SH 26
CKSD(2) SH 26
CKSD(5) SH 26
CKSD(6) SH 26
CKSD(7) SH 26
J3B B
NC
BCHANSEL SH 25
GND
LVIDD(2) SH 26
LVIDD(5) SH 26
CVIDD(0) SH 26
CVIDD(3) SH 26
CVIDD(6) SH 26
CKSD(1) SH 26
CKSD(4) SH 26
GND
J3C C
~~NC~~
LVIDD(0) SH 26
GND
LVIDD(1) SH 26
LVIDD(4) SH 26
LVIDD(7) SH 26
CVIDD(2) SH 26
CVIDD(5) SH 26
CKSD(0) SH 26
CKSD(3) SH 26
GND


FB2
131 OHMS
100MHZ
+5V IN A
+5V
FB1
131 OHMS
100MHZ
+5V IN B
C121
22UF/
15V

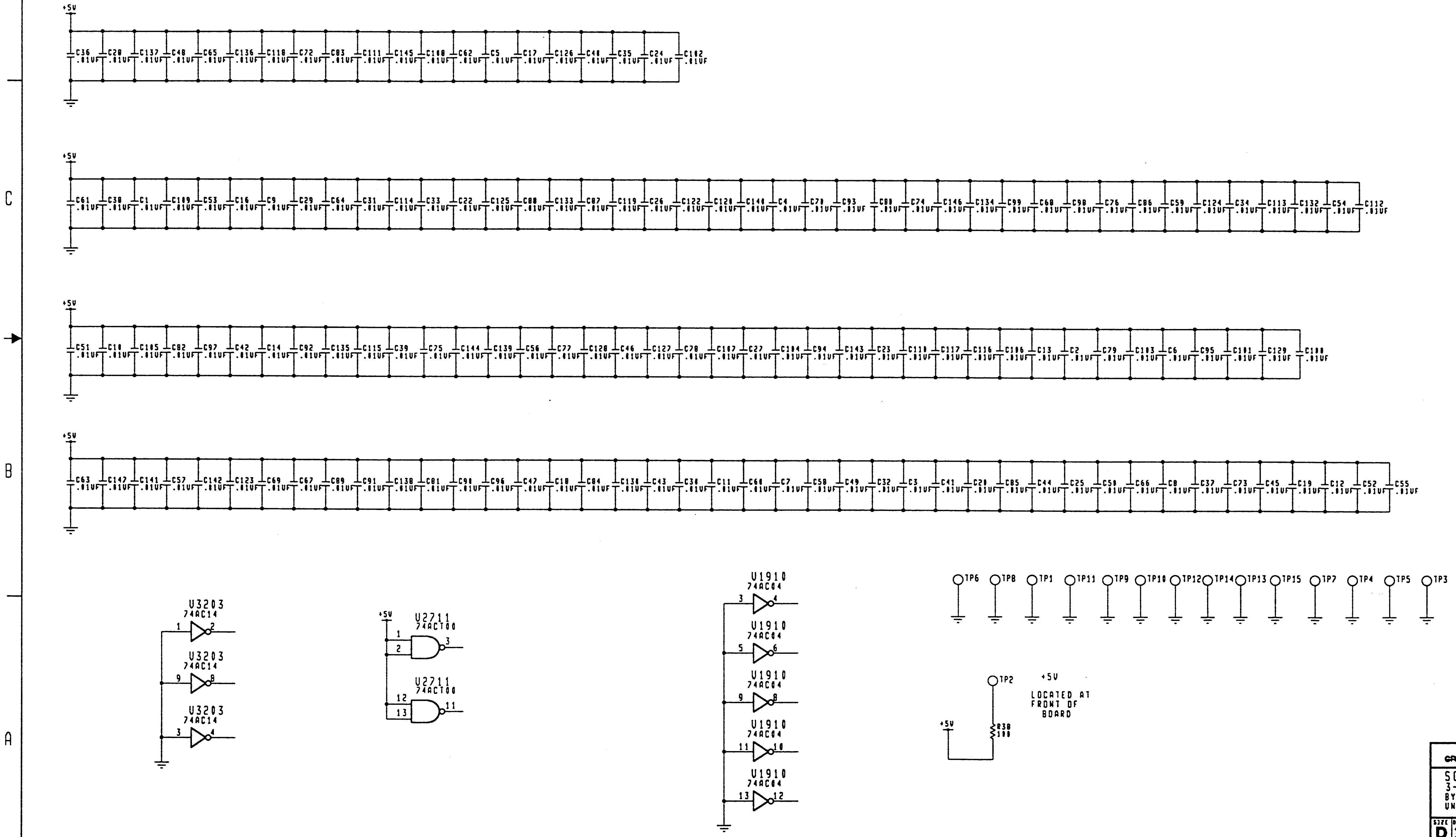
GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
3-D VIDEO PROCESSOR
BUS INTERFACE
CONNECTOR

SIZE	DRAWING NO.	REV
D	10-064741-00/10	A1

SCALE: NONE SHEET 27 OF 28

SEE SHEET 1 FOR REVISIONS


+5V
C36 .01UF
C20 .01UF
C137 .01UF
C48 .01UF
C65 .01UF
C136 .01UF
C118 .01UF
C72 .01UF
C83 .01UF
C111 .01UF
C145 .01UF
C108 .01UF
C62 .01UF
C5 .01UF
C17 .01UF
C126 .01UF
C40 .01UF
C35 .01UF
C24 .01UF
C102 .01UF
+5V
C61 .01UF
C38 .01UF
C1 .01UF
C109 .01UF
C53 .01UF
C16 .01UF
C9 .01UF
C29 .01UF
C64 .01UF
C31 .01UF
C114 .01UF
C33 .01UF
C22 .01UF
C125 .01UF
C88 .01UF
C133 .01UF
C87 .01UF
C119 .01UF
C26 .01UF
C122 .01UF
C120 .01UF
C140 .01UF
C4 .01UF
C70 .01UF
C93 .01UF
C80 .01UF
C74 .01UF
C146 .01UF
C134 .01UF
C99 .01UF
C68 .01UF
C98 .01UF
C76 .01UF
C86 .01UF
C59 .01UF
C124 .01UF
C34 .01UF
C113 .01UF
C132 .01UF
C54 .01UF
C112 .01UF
+5V
C51 .01UF
C10 .01UF
C105 .01UF
C82 .01UF
C97 .01UF
C42 .01UF
C14 .01UF
C92 .01UF
C135 .01UF
C115 .01UF
C39 .01UF
C75 .01UF
C144 .01UF
C139 .01UF
C56 .01UF
C77 .01UF
C128 .01UF
C46 .01UF
C127 .01UF
C78 .01UF
C107 .01UF
C27 .01UF
C104 .01UF
C94 .01UF
C143 .01UF
C23 .01UF
C110 .01UF
C117 .01UF
C116 .01UF
C106 .01UF
C13 .01UF
C2 .01UF
C79 .01UF
C103 .01UF
C6 .01UF
C95 .01UF
C101 .01UF
C129 .01UF
C100 .01UF
+5V
C63 .01UF
C147 .01UF
C141 .01UF
C57 .01UF
C142 .01UF
C123 .01UF
C69 .01UF
C67 .01UF
C89 .01UF
C91 .01UF
C138 .01UF
C81 .01UF
C90 .01UF
C96 .01UF
C47 .01UF
C18 .01UF
C84 .01UF
C130 .01UF
C43 .01UF
C30 .01UF
C11 .01UF
C60 .01UF
C7 .01UF
C58 .01UF
C49 .01UF
C32 .01UF
C3 .01UF
C41 .01UF
C28 .01UF
C85 .01UF
C44 .01UF
C25 .01UF
C50 .01UF
C66 .01UF
C8 .01UF
C37 .01UF
C73 .01UF
C45 .01UF
C19 .01UF
C12 .01UF
C52 .01UF
C55 .01UF
U3203 74AC14 1 2
U3203 74AC14 9 8
U3203 74AC14 3 4
+5V
U2711 74ACT00 1 2 3
U2711 74ACT00 12 13 11
U1910 74AC04 3 4
U1910 74AC04 5 6
U1910 74AC04 9 8
U1910 74AC04 11 10
U1910 74AC04 13 12
TP6 TP8 TP1 TP11 TP9 TP10 TP12 TP14 TP13 TP15 TP7 TP4 TP5 TP3
TP2
+5V
LOCATED AT FRONT OF BOARD
+5V
R30 100

GRASS VALLEY GROUP

SCHEMATIC DIAGRAM
3-D VIDEO PROCESSOR
BYPASS CAPS, TESTPOINTS,
UNUSED GATES

SIZE	DRAWING NO.	REV
D	10-064741-00/10	A1

SCALE: NONE | SHEET 28 OF 28

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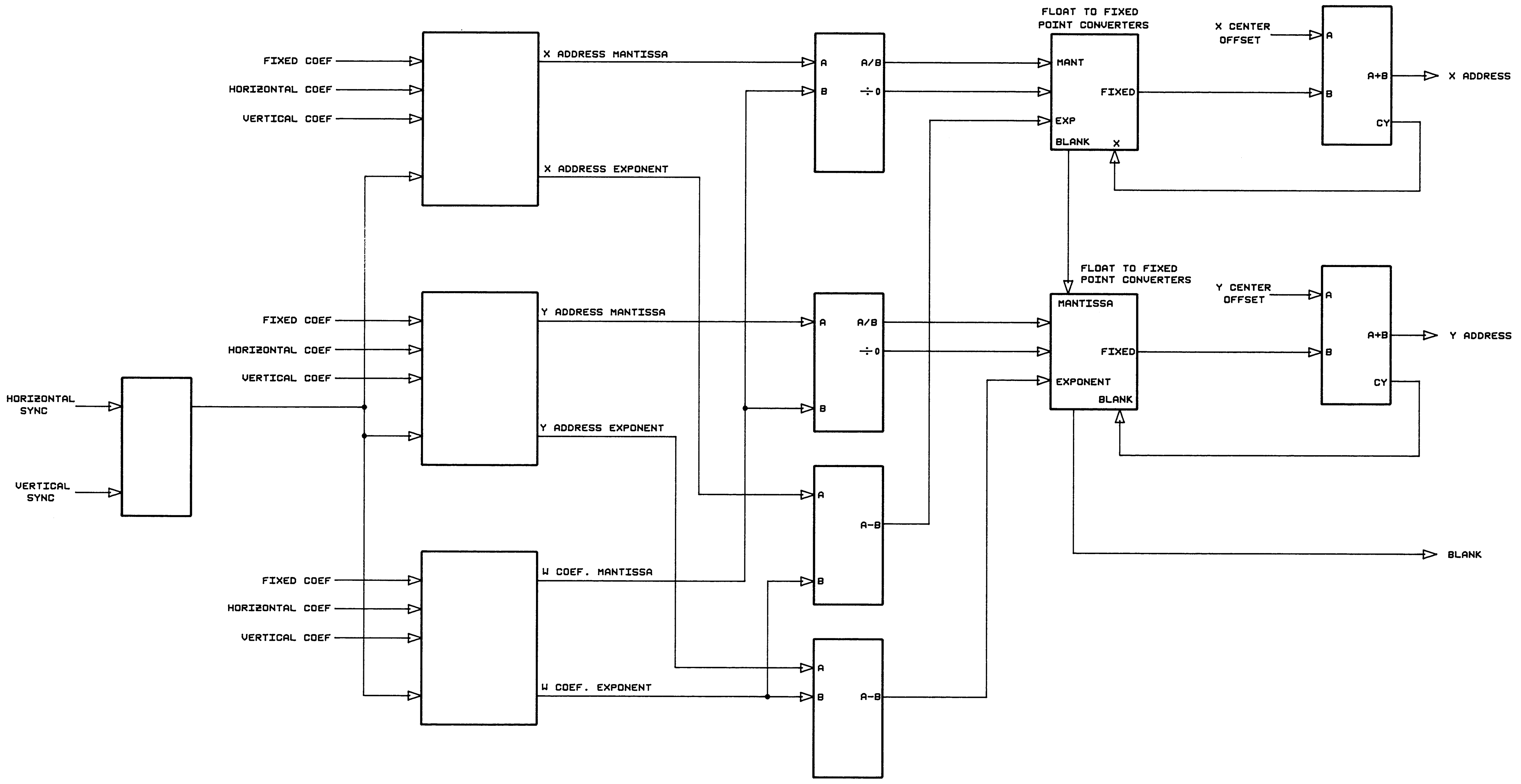
REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
A1	2401 2406	PLUM	—	PLUM	—		—

PILOT RUN RELEASE -00/10.


FIXED COEF
HORIZONTAL COEF
VERTICAL COEF
X ADDRESS MANTISSA
X ADDRESS EXPONENT
A
B
A/B
÷0
FLOAT TO FIXED POINT CONVERTERS
MANT
EXP
BLANK
X
FIXED
X CENTER OFFSET
A
B
A+B
CY
X ADDRESS
HORIZONTAL SYNC
VERTICAL SYNC
FIXED COEF
HORIZONTAL COEF
VERTICAL COEF
Y ADDRESS MANTISSA
Y ADDRESS EXPONENT
A
A/B
÷0
B
FLOAT TO FIXED POINT CONVERTERS
MANTISSA
EXPONENT
BLANK
FIXED
Y CENTER OFFSET
A
B
A+B
CY
Y ADDRESS
A
A-B
B
BLANK
FIXED COEF
HORIZONTAL COEF
VERTICAL COEF
W COEF. MANTISSA
W COEF. EXPONENT
A
B
A-B

	CADNETIX
DPM700	064742
USED ON	NEXT ASSY
APPLICATION	
DISTRIBUTION	

Grass Valley Group® GVG
GRASS VALLEY CALIFORNIA
A TEKTRONIX COMPANY

DRAWN PLUM DATE 30MAY91
ENGINEER RB
CHECKED DATE
APPROVED RB DATE 19 JUN
PILOT RUN RLSE DATE
ENGRG RLSE DATE

BLOCK DIAGRAM

3D RAG BOARD

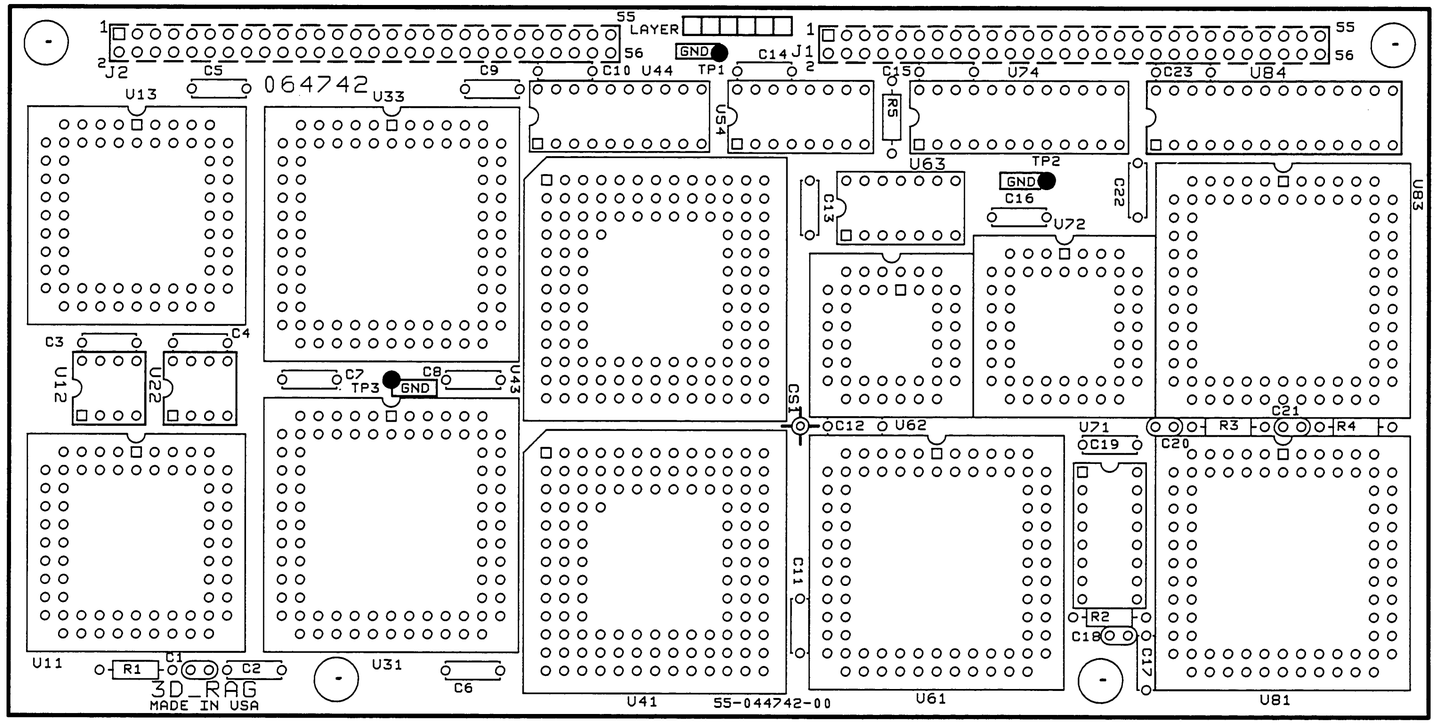
SIZE D
DRAWING NO. 00-064742-$\frac{00}{10}$ A1
SCALE: NONE
SHEET 1 OF 1

THIS DRAWING WHEN DISTRIBUTED OUTSIDE THE GRASS VALLEY GROUP, INC. IS SUPPLIED FOR INDENTIFICATION, ENGINEERING EVALUATION AND/OR INSPECTION PURPOSES ONLY AND MAY NOT BE USED AS A BASIS FOR MANUFACTURE OR SALES OF PRODUCTS OR DISCLOSED TO OTHER PARTIES WITHOUT WRITTEN PERMISSION FROM THE GRASS VALLEY GROUP, INC.

REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
A1	Ƶ401 Ƶ406	JS	5/91	—	—		—

PILOT RUN RELEASE -00/10.


1
2
J2
S5
S6
LAYER
GND
TP1
C14
J1
1
2
S5
S6
C5
064742
C9
C10
U44
U54
C15
R5
U74
C23
U84
U13
U33
U63
TP2
GND
C16
U72
C13
C22
U83
C3
C4
U12
U22
C7
TP3
GND
C8
U43
CS1
C12
U62
U71
C19
C20
R3
C21
R4
C11
R2
C18
C17
U11
R1
C1
C2
3D_RAG
MADE IN USA
U31
C6
U41
55-044742-00
U61
U81

NOTES:
1. SCHEMATIC REFERENCE: D10-064742-00/-10
2. FILLED ROUND COMPONENTS INDICATE TEST POINTS.
3. REFER TO SCHEMATIC FOR CONNECTOR PIN OUT INFORMATION.

	CADNETIX
USED ON	NEXT ASSY
APPLICATION	
DISTRIBUTION	

Grass Valley Group®
GRASS VALLEY CALIFORNIA
A TEKTRONIX COMPANY

DRAWN JS DATE 6/14/91
ENGINEER RCB
CHECKED DATE
APROVED RB DATE 19 JUN 91
PILOT RUN RLSE DATE
ENGRG RLSE DATE

SCHEMATIC DIAGRAM
3D RAG

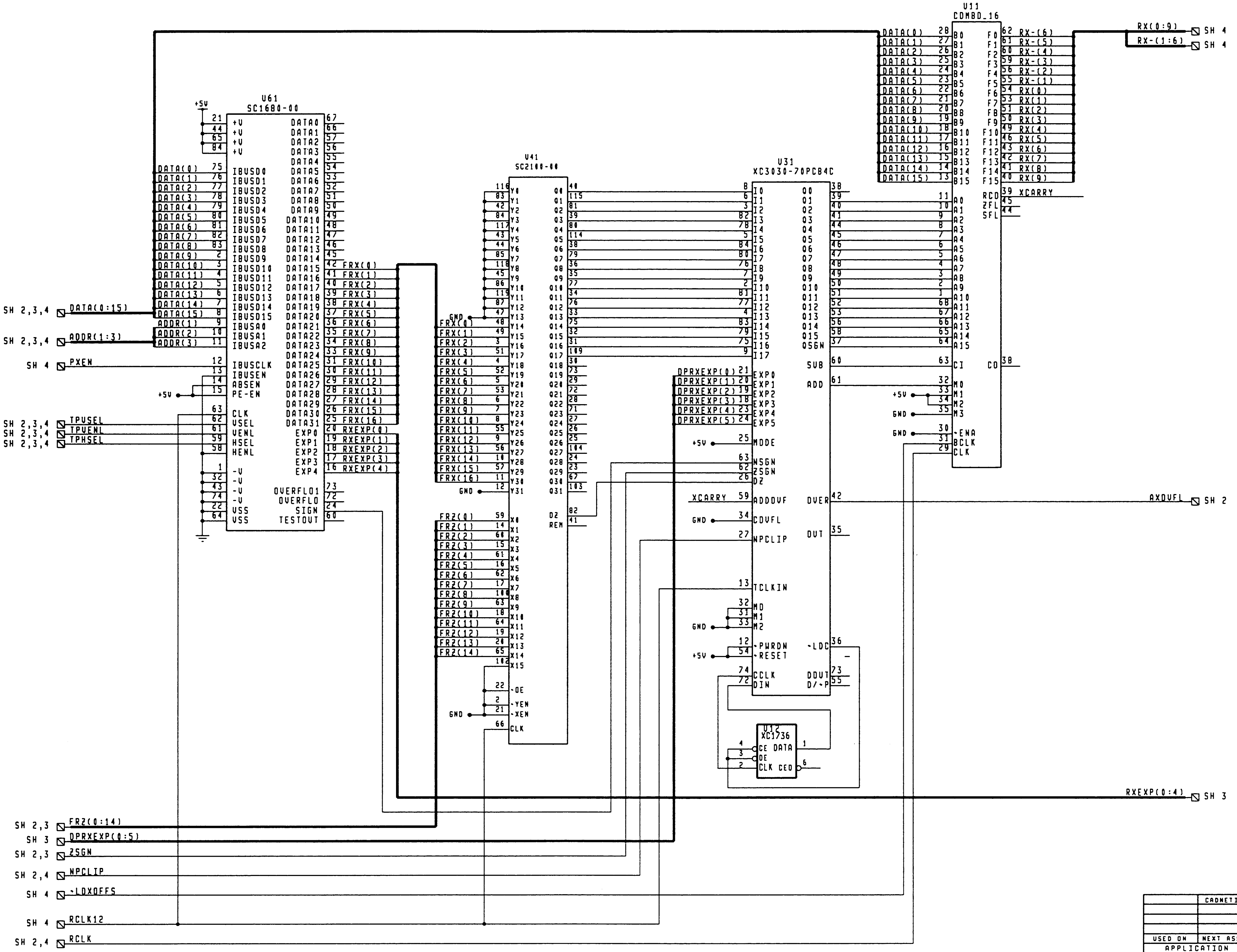
SIZE D
DRAWING NO. 07-064742-00/10 A1
SCALE: NONE
SHEET 1 OF 1

THIS DRAWING WHEN DISTRIBUTED OUTSIDE THE GRASS VALLEY GROUP, INC. IS SUPPLIED FOR INDENTIFICATION, ENGINEERING EVALUATION AND/OR INSPECTION PURPOSES ONLY AND MAY NOT BE USED AS A BASIS FOR MANUFACTURE OR SALES OF PRODUCTS OR DISCLOSED TO OTHER PARTIES WITHOUT WRITTEN PERMISSION FROM THE GRASS VALLEY GROUP, INC.

REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
A1	2401 2406	JS	5/91	—	—		—

PILOT RUN RELEASE -00/10.


U61
SC1680-00
U41
SC2100-00
U31
XC3030-70PC84C
U11
COMBO_16
U12
XC1736
SH 2,3,4 DATA(0:15)
SH 2,3,4 ADDR(1:3)
SH 4 PXEN
SH 2,3,4 TPVSEL
SH 2,3,4 TPVENL
SH 2,3,4 TPHSEL
SH 2,3 FRZ(0:14)
SH 3 DPRXEXP(0:5)
SH 2,3 ZSGN
SH 2,3 NPCLIP
SH 4 ~LDXOFFS
SH 4 RCLK12
SH 2,4 RCLK
RX(0:9) SH 4
RX-(1:6) SH 4
AXOVFL SH 2
RXEXP(0:4) SH 3
XCARRY
+5V
GND

Grass Valley Group®

GRASS VALLEY CALIFORNIA — A TEKTRONIX COMPANY

DRAWN PLUM/JS DATE 4/10/91
ENGINEER RCB
CHECKED DATE
APPROVED RB DATE 19 JUN 91
PILOT RUN RLSE DATE
ENGRG RLSE DATE

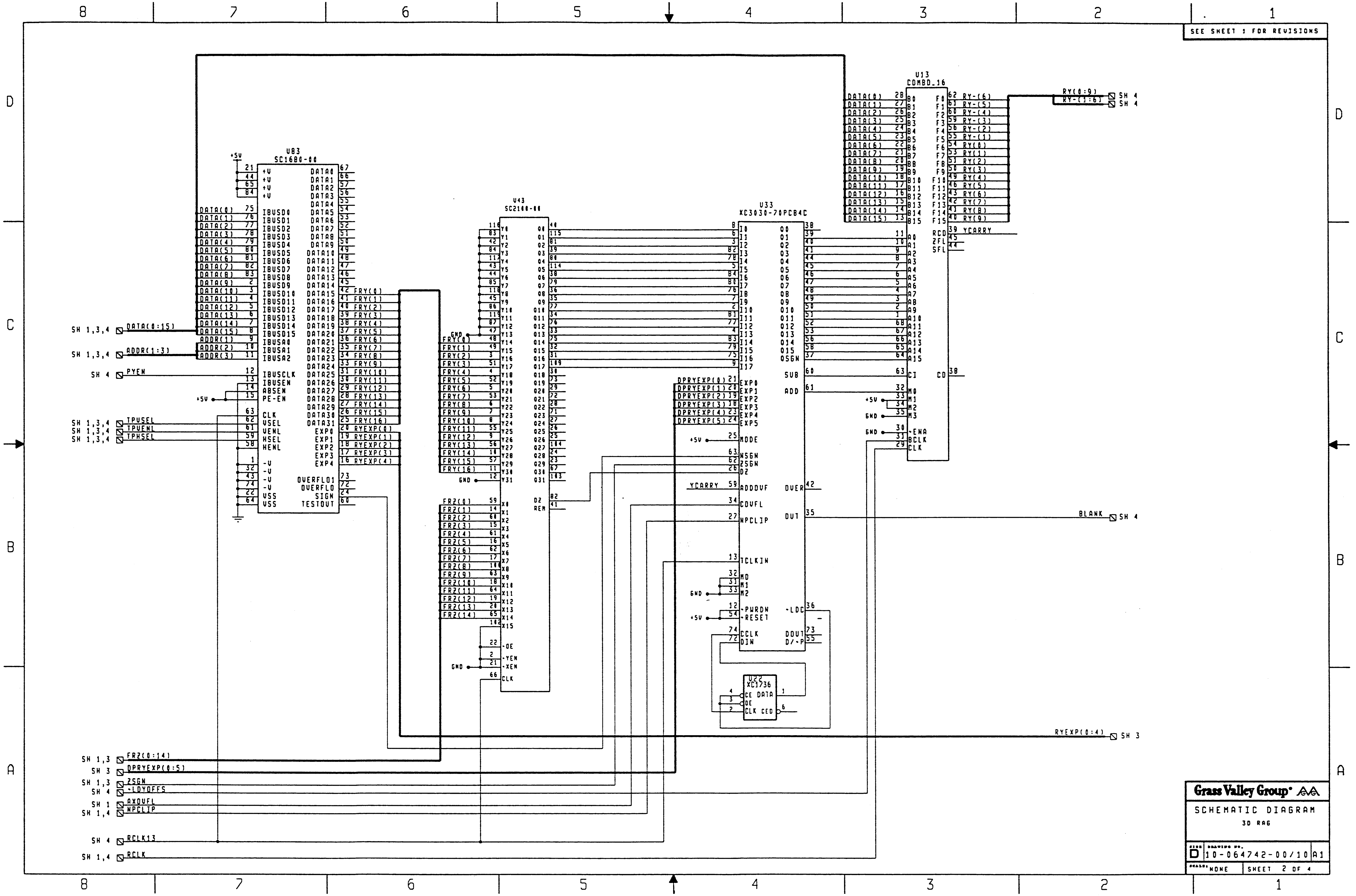
SCHEMATIC DIAGRAM

3D RAG

SIZE D
DRAWING NO. 10-064742-00/10 A1
SCALE: NONE
SHEET 1 OF 4

CADNETIX
USED ON | NEXT ASSY
APPLICATION
DISTRIBUTION

SEE SHEET 1 FOR REVISIONS


U83
SC1680-00
U43
SC2100-00
U33
XC3030-70PC84C
U13
COMBO_16
U22
XC1736
SH 1,3,4 DATA(0:15)
SH 1,3,4 ADDR(1:3)
SH 4 PYEN
SH 1,3,4 TPUSEL
SH 1,3,4 TPUENL
SH 1,3,4 TPHSEL
SH 1,3 FRZ(0:14)
SH 3 DPRYEXP(0:5)
SH 1,3 ZSGN
SH 4 ~LDYOFFS
SH 1 AXOUFL
SH 1,4 NPCLIP
SH 4 RCLK13
SH 1,4 RCLK
RY(0:9) SH 4
RY-(1:6) SH 4
BLANK SH 4
RYEXP(0:4) SH 3
YCARRY
+5V
GND

Grass Valley Group

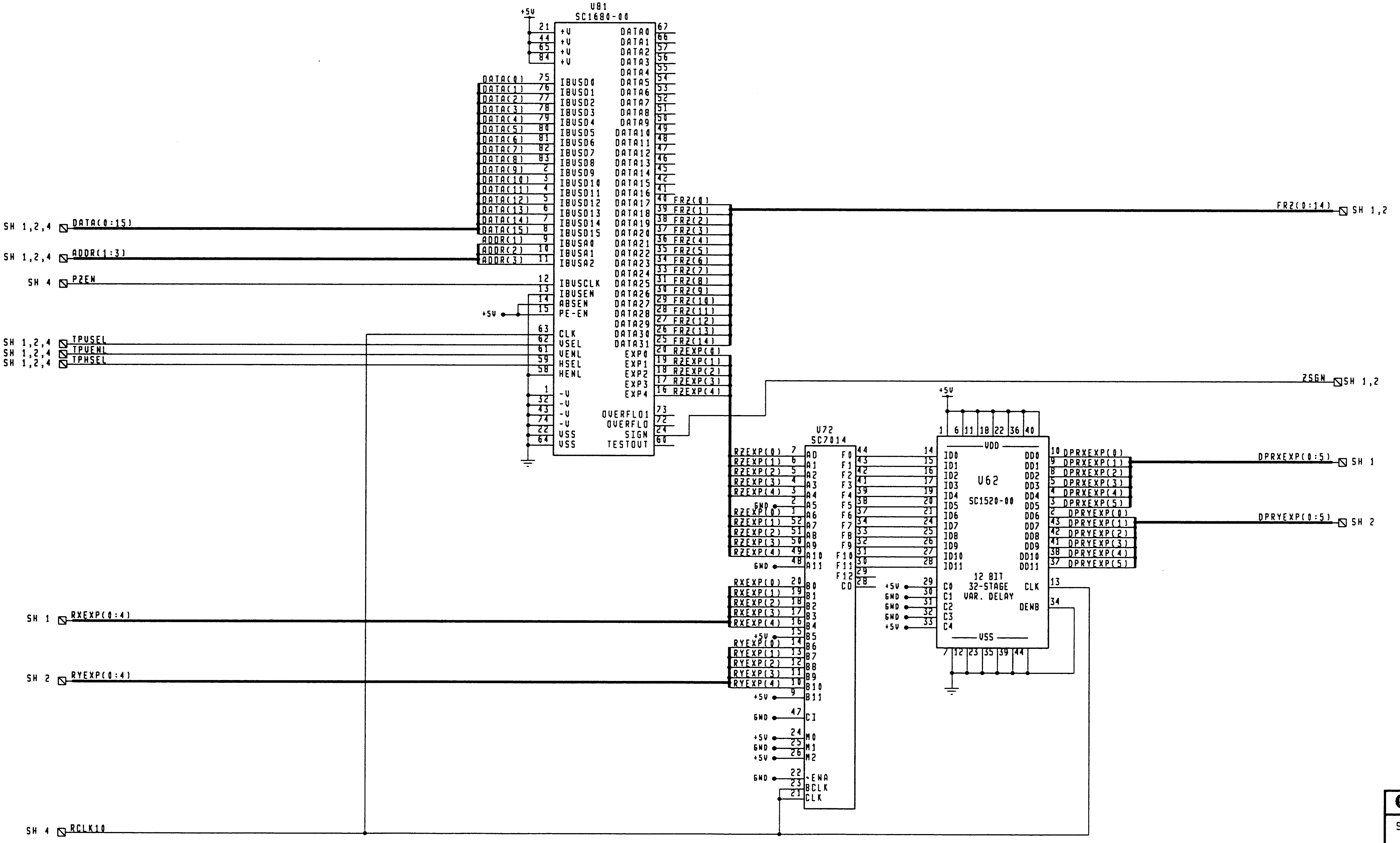
SCHEMATIC DIAGRAM

3D RAG

D 10-064742-00/10 A1

SCALE NONE SHEET 2 OF 4

SEE SHEET 1 FOR REVISIONS



U81
SC1680-00
+5V
+V
IBUSD0
IBUSD1
IBUSD2
IBUSD3
IBUSD4
IBUSD5
IBUSD6
IBUSD7
IBUSD8
IBUSD9
IBUSD10
IBUSD11
IBUSD12
IBUSD13
IBUSD14
IBUSD15
IBUSA0
IBUSA1
IBUSA2
IBUSCLK
IBUSEN
ABSEN
PE-EN
CLK
VSEL
VENL
HSEL
HENL
-V
VSS
DATA0
DATA31
EXP0
EXP1
EXP2
EXP3
EXP4
OVERFLO1
OVERFLO
SIGN
TESTOUT
SH 1,2,4 DATA(0:15)
SH 1,2,4 ADDR(1:3)
SH 4 P2EN
SH 1,2,4 TPVSEL
SH 1,2,4 TPVENL
SH 1,2,4 TPHSEL
SH 1 RXEXP(0:4)
SH 2 RYEXP(0:4)
SH 4 RCLK10
FRZ(0:14) SH 1,2
ZSGN SH 1,2
DPRXEXP(0:5) SH 1
DPRYEXP(0:5) SH 2
FRZ(0)
FRZ(14)
RZEXP(0)
RZEXP(4)
U72
SC7014
A0
A11
B0
B11
F0
F12
CO
CI
M0
M1
M2
ENA
BCLK
CLK
GND
U62
SC1520-00
VDD
ID0
ID11
DD0
DD11
C0
C1
C2
C3
C4
12 BIT
32-STAGE
VAR. DELAY
CLK
DENB
VSS
DPRXEXP(0)
DPRXEXP(5)
DPRYEXP(0)
DPRYEXP(5)

Grass Valley Group®

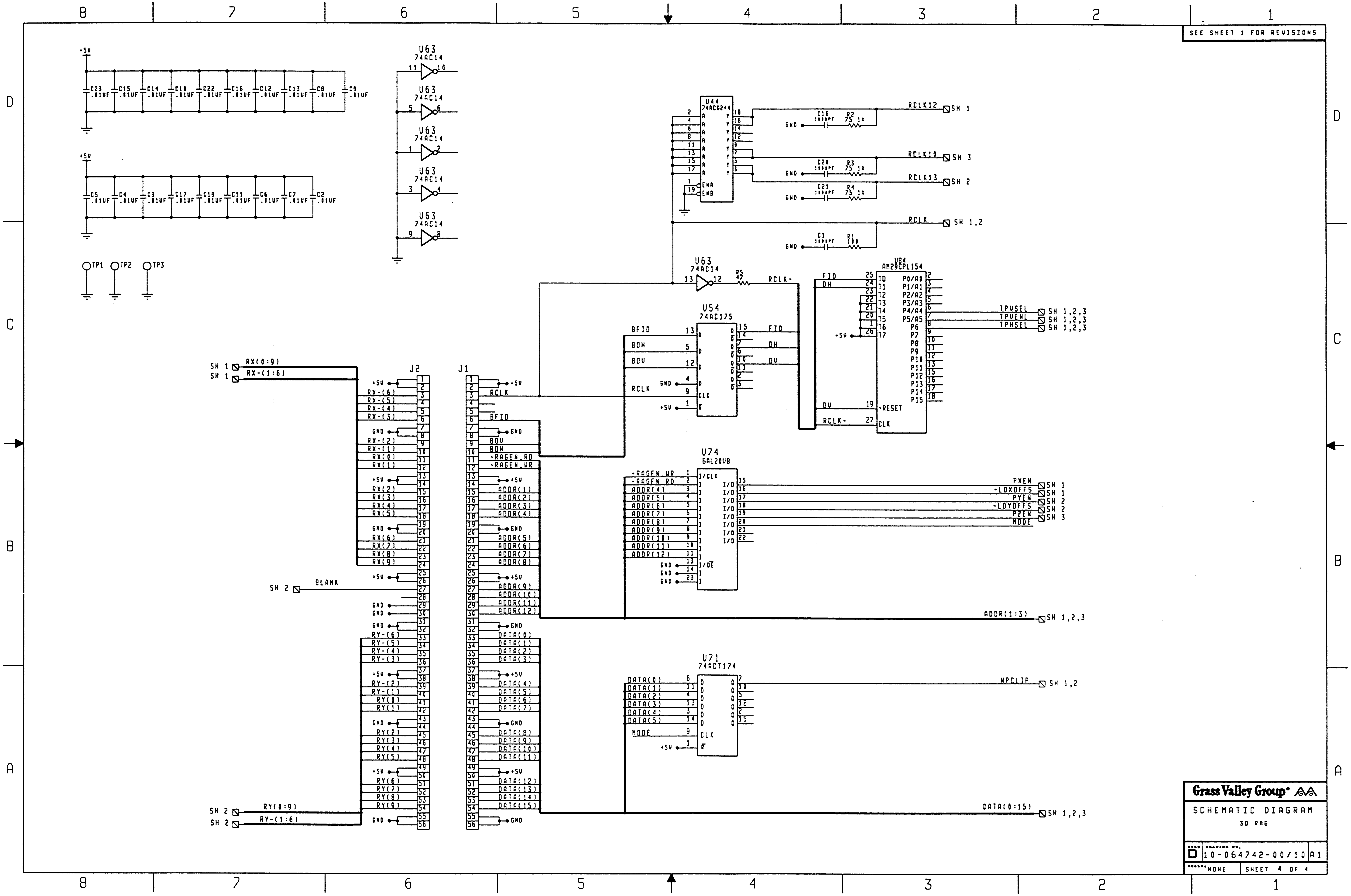
SCHEMATIC DIAGRAM

3D RAG

SIZE D | DRAWING NO. 10-064742-00/10 | A1

SCALE: NONE | SHEET 3 OF 4

SEE SHEET 1 FOR REVISIONS


8
7
6
5
4
3
2
1
D
C
B
A
+5V
C23 .01UF
C15 .01UF
C14 .01UF
C18 .01UF
C22 .01UF
C16 .01UF
C12 .01UF
C13 .01UF
C8 .01UF
C9 .01UF
C5 .01UF
C4 .01UF
C3 .01UF
C17 .01UF
C19 .01UF
C11 .01UF
C6 .01UF
C7 .01UF
C2 .01UF
TP1
TP2
TP3
U63 74AC14
U44 74ACQ244
RCLK12 SH 1
RCLK10 SH 3
RCLK13 SH 2
RCLK SH 1,2
C18 1000PF
R2 75 1%
C20 1000PF
R3 75 1%
C21 1000PF
R4 75 1%
C1 1000PF
R1 100
GND
ENA
ENB
R5 47
RCLK~
U84 AM29CPL154
FID
DH
DV
RESET
CLK
P0/A0
P1/A1
P2/A2
P3/A3
P4/A4
P5/A5
P6
P7
P8
P9
P10
P11
P12
P13
P14
P15
TPUSEL SH 1,2,3
TPVENL SH 1,2,3
TPHSEL SH 1,2,3
U54 74AC175
BFID
BOH
BOV
RCLK
U74 GAL20V8
~RAGEN_WR
~RAGEN_RD
ADDR(4)
ADDR(5)
ADDR(6)
ADDR(7)
ADDR(8)
ADDR(9)
ADDR(10)
ADDR(11)
ADDR(12)
PXEN SH 1
~LDXOFFS SH 1
PYEN SH 2
~LDYOFFS SH 2
PZEN SH 3
MODE
ADDR(1:3) SH 1,2,3
U71 74ACT174
DATA(0)
DATA(1)
DATA(2)
DATA(3)
DATA(4)
DATA(5)
MODE
NPCLIP SH 1,2
DATA(0:15) SH 1,2,3
J2
J1
SH 1 RX(0:9)
SH 1 RX-(1:6)
SH 2 BLANK
SH 2 RY(0:9)
SH 2 RY-(1:6)
RX-(6)
RX-(5)
RX-(4)
RX-(3)
RX-(2)
RX-(1)
RX(0)
RX(1)
RX(2)
RX(3)
RX(4)
RX(5)
RX(6)
RX(7)
RX(8)
RX(9)
RY-(6)
RY-(5)
RY-(4)
RY-(3)
RY-(2)
RY-(1)
RY(0)
RY(1)
RY(2)
RY(3)
RY(4)
RY(5)
RY(6)
RY(7)
RY(8)
RY(9)
ADDR(1)
ADDR(2)
ADDR(3)
DATA(6)
DATA(7)
DATA(8)
DATA(9)
DATA(10)
DATA(11)
DATA(12)
DATA(13)
DATA(14)
DATA(15)

Grass Valley Group

SCHEMATIC DIAGRAM

3D RAG

SIZE D DRAWING NO. 10-064742-00/10 A1

SCALE: NONE SHEET 4 OF 4

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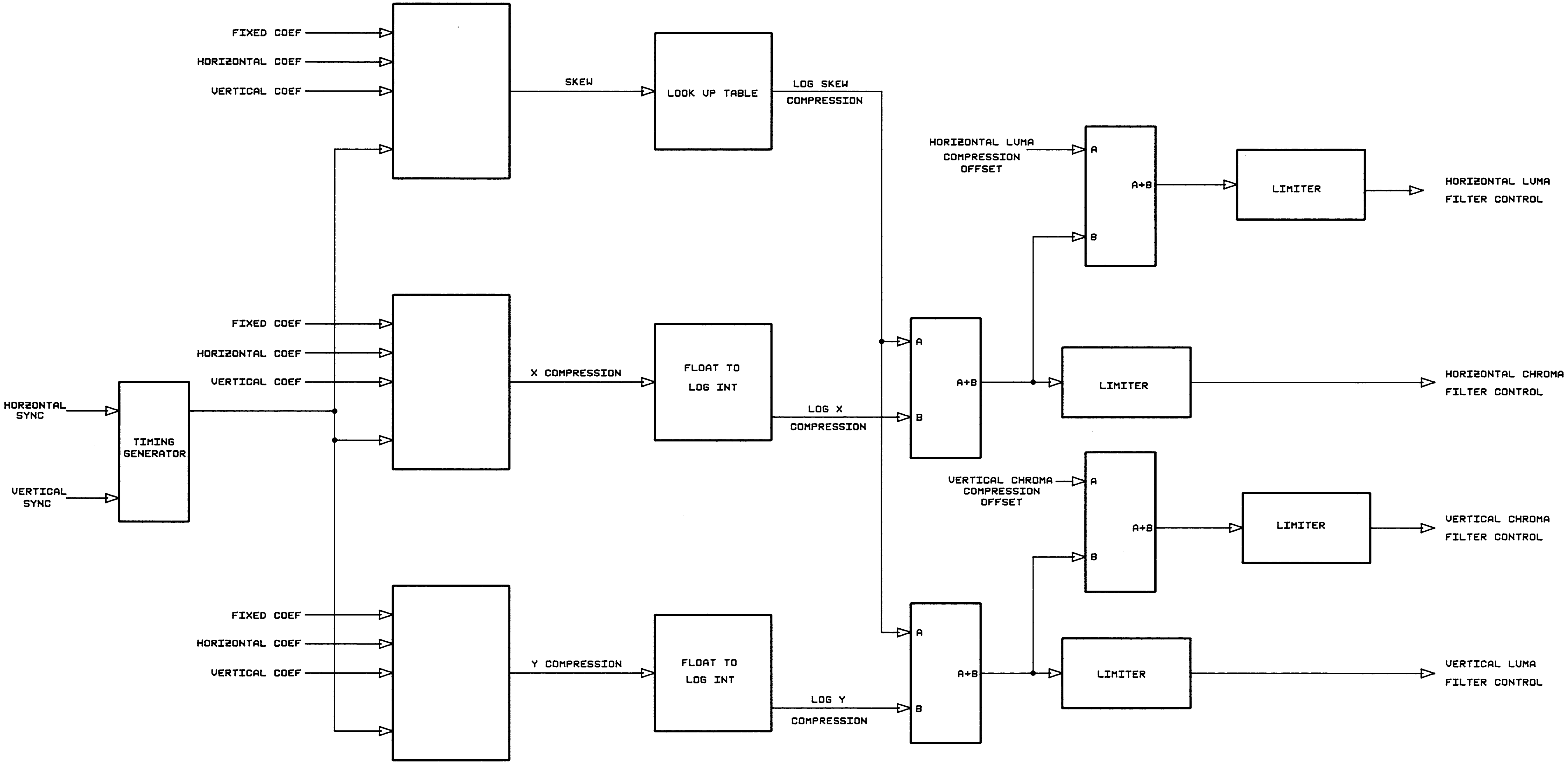
REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
A1	Z401 Z406	PLUM	—	PLUM	—		—

PILOT RUN RELEASE -00/10.


FIXED COEF
HORIZONTAL COEF
VERTICAL COEF
SKEW
LOOK UP TABLE
LOG SKEW
COMPRESSION
HORIZONTAL LUMA
COMPRESSION
OFFSET
A
B
A+B
LIMITER
HORIZONTAL LUMA
FILTER CONTROL
FIXED COEF
HORIZONTAL COEF
VERTICAL COEF
X COMPRESSION
FLOAT TO
LOG INT
LOG X
COMPRESSION
A
B
A+B
LIMITER
HORIZONTAL CHROMA
FILTER CONTROL
HORZONTAL
SYNC
VERTICAL
SYNC
TIMING
GENERATOR
VERTICAL CHROMA
COMPRESSION
OFFSET
A
B
A+B
LIMITER
VERTICAL CHROMA
FILTER CONTROL
FIXED COEF
HORIZONTAL COEF
VERTICAL COEF
Y COMPRESSION
FLOAT TO
LOG INT
LOG Y
COMPRESSION
A
B
A+B
LIMITER
VERTICAL LUMA
FILTER CONTROL

	CADNETIX
DPM700	064743
USED ON	NEXT ASSY

APPLICATION

DISTRIBUTION

Grass Valley Group®

GRASS VALLEY CALIFORNIA

A TEKTRONIX COMPANY

DRAWN PLUM DATE 30MAY91

ENGINEER RB

CHECKED DATE

APPROVED RB DATE 19 JUN 91

PILOT RUN RLSE DATE

ENGRG RLSE DATE

BLOCK DIAGRAM

FILTER CONTROL BOARD

SIZE D

DRAWING NO. 00-064743- $\frac{00}{10}$ A1

SCALE: NONE

SHEET 1 OF 1

SIZE DWG NO. REV SH
D 07-064743-00/-10 A1 1

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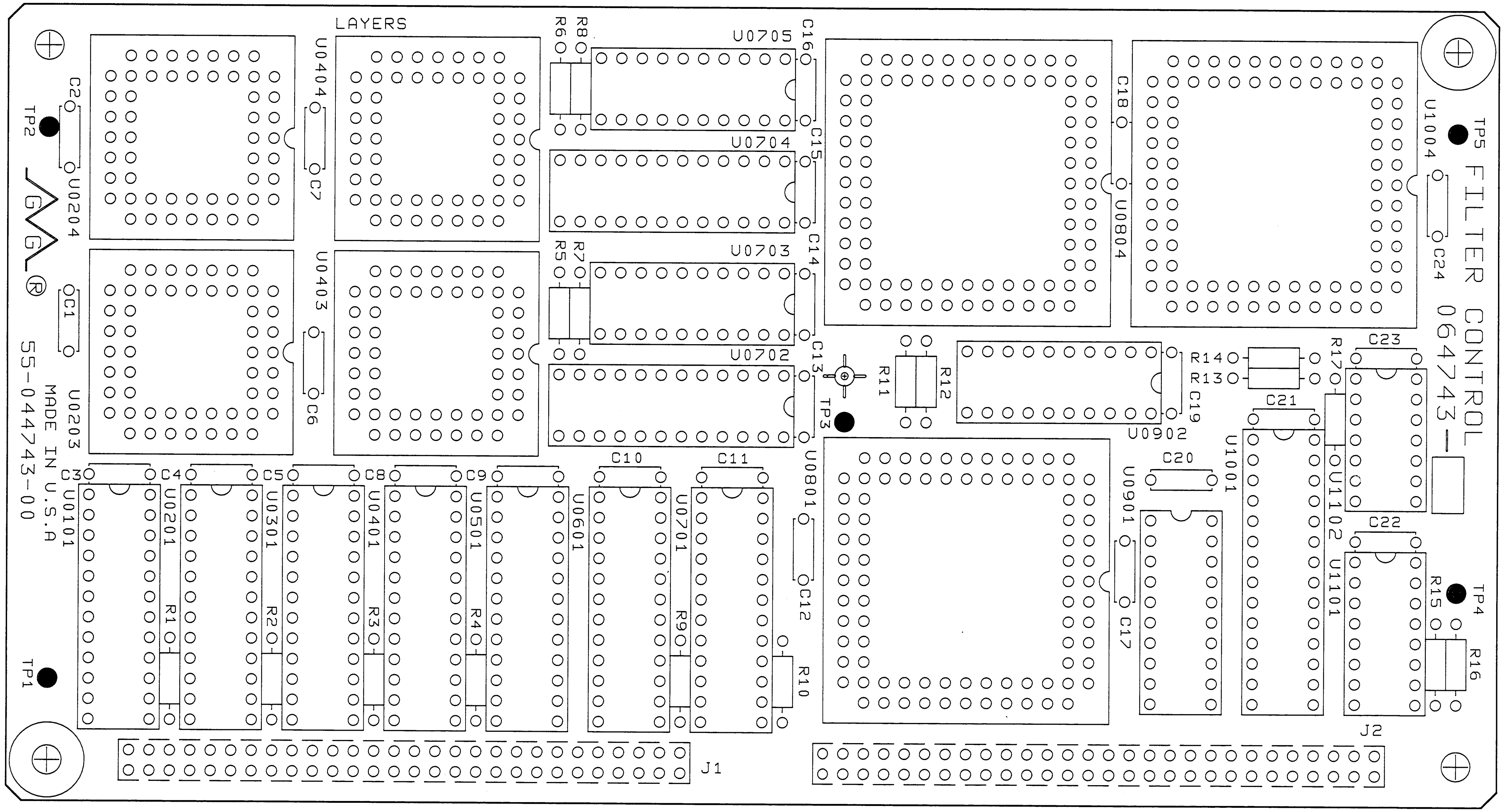
REVISIONS

REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
A1	Z401 Z406	EAD	MAY31 1991	——	——		——

PILOT RUN RELEASE -00 / -10


LAYERS
U0705
U0704
U0703
U0702
U0404
U0403
U0204
U0203
U0101
U0201
U0301
U0401
U0501
U0601
U0701
U0801
U0804
U0901
U0902
U1001
U1004
U1101
U1102
R1
R2
R3
R4
R5
R6
R7
R8
R9
R10
R11
R12
R13
R14
R15
R16
R17
C1
C2
C3
C4
C5
C6
C7
C8
C9
C10
C11
C12
C13
C14
C15
C16
C17
C18
C19
C20
C21
C22
C23
C24
TP1
TP2
TP3
TP4
TP5
J1
J2
FILTER CONTROL
064743-
MADE IN U.S.A
55-044743-00

NOTES:

1. SCHEMATIC REFERENCE: D10-064743-00/-10
2. FILLED ROUND COMPONENTS INDICATE TEST POINTS.
3. REFER TO SCHEMATIC FOR CONNECTOR PIN OUT INFORMATION.

	CADNETIX
	064743
USED ON	NEXT ASSY
APPLICATION	
DISTRIBUTION	

GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA *A TEKTRONIX COMPANY*

DRAWN EAD DATE 31MAY91
ENGINEER RB
CHECKED DATE
APPROVED RB DATE 19 JUN 91
PILOT RUN RLSE DATE
ENGRG RLSE DATE

COMPONENT LOCATION
FILTER CONTROL

SIZE D
DRAWING NO. 07-064743-00/-10
A1
SCALE: NONE
SHEET 1 OF 1

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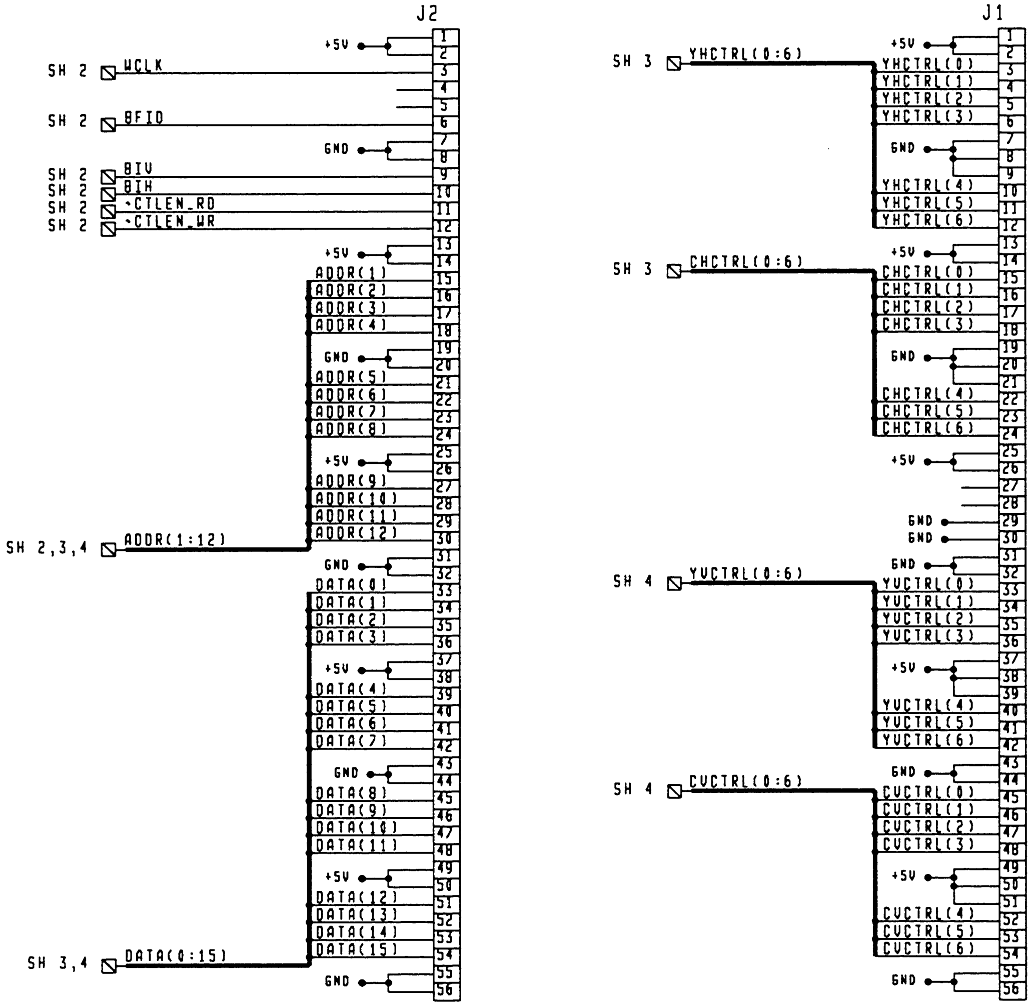
REVISIONS							
REV	ECO	DFTR	DATE	CHK	APVD	M/F	RDC
A1	2401 2406	EAD	JUN 1991				

PILOT RUN RELEASE -00 / -10


J2
+5V
SH 2 WCLK
SH 2 BFID
GND
SH 2 BIV
SH 2 BIH
SH 2 *CTLEN_RD
SH 2 *CTLEN_WR
+5V
ADDR(1)
ADDR(2)
ADDR(3)
ADDR(4)
GND
ADDR(5)
ADDR(6)
ADDR(7)
ADDR(8)
+5V
ADDR(9)
ADDR(10)
ADDR(11)
ADDR(12)
SH 2,3,4 ADDR(1:12)
GND
DATA(0)
DATA(1)
DATA(2)
DATA(3)
+5V
DATA(4)
DATA(5)
DATA(6)
DATA(7)
GND
DATA(8)
DATA(9)
DATA(10)
DATA(11)
+5V
DATA(12)
DATA(13)
DATA(14)
DATA(15)
SH 3,4 DATA(0:15)
GND
J1
SH 3 YHCTRL(0:6)
+5V
YHCTRL(0)
YHCTRL(1)
YHCTRL(2)
YHCTRL(3)
GND
YHCTRL(4)
YHCTRL(5)
YHCTRL(6)
SH 3 CHCTRL(0:6)
+5V
CHCTRL(0)
CHCTRL(1)
CHCTRL(2)
CHCTRL(3)
GND
CHCTRL(4)
CHCTRL(5)
CHCTRL(6)
+5V
GND
GND
SH 4 YVCTRL(0:6)
GND
YVCTRL(0)
YVCTRL(1)
YVCTRL(2)
YVCTRL(3)
+5V
YVCTRL(4)
YVCTRL(5)
YVCTRL(6)
SH 4 CVCTRL(0:6)
GND
CVCTRL(0)
CVCTRL(1)
CVCTRL(2)
CVCTRL(3)
+5V
CVCTRL(4)
CVCTRL(5)
CVCTRL(6)
GND
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56

Grass Valley Group®

GRASS VALLEY CALIFORNIA

A TEKTRONIX COMPANY

	CADNETIX
DPM700	064743
USED ON	NEXT ASSY
APPLICATION	
DISTRIBUTION	

DRAWN RCB DATE

ENGINEER RCB

CHECKED DATE

APPROVED RB DATE 19JUL91

PILOT RUN RLSE DATE

ENGRG RLSE DATE

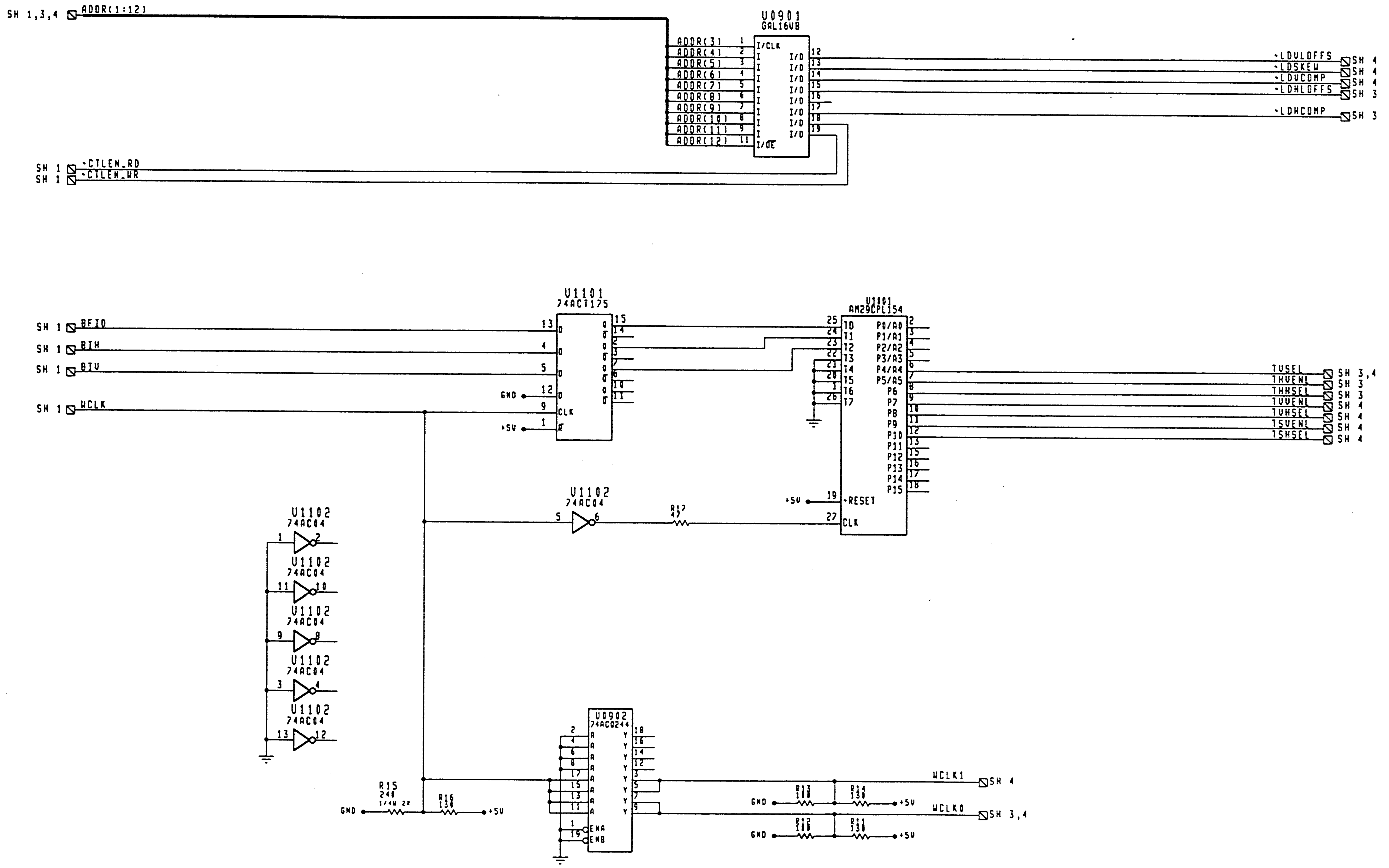
SCHEMATIC DIAGRAM

FILTER CONTROL

SIZE D DRAWING NO. 10-064743-00/-10 A1

SCALE: NONE SHEET 1 OF 5

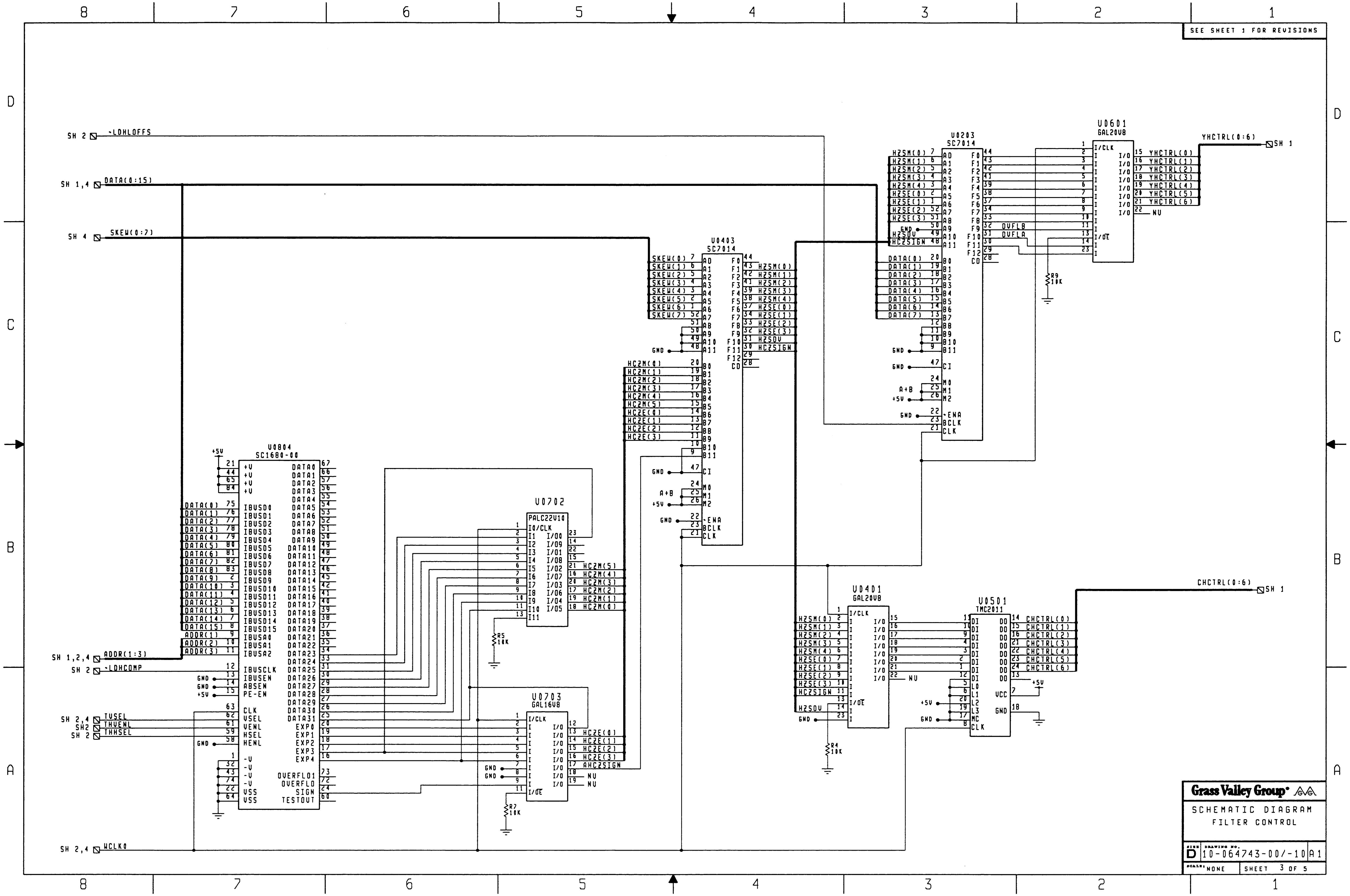
SEE SHEET 1 FOR REVISIONS


SH 1,3,4
ADDR(1:12)
U0901
GAL16V8
ADDR(3)
ADDR(4)
ADDR(5)
ADDR(6)
ADDR(7)
ADDR(8)
ADDR(9)
ADDR(10)
ADDR(11)
ADDR(12)
I/CLK
I/O
I/OE
~LDVLOFFS
~LDSKEW
~LDVCOMP
~LDHLOFFS
~LDHCOMP
SH 4
SH 4
SH 4
SH 3
SH 3
SH 1
SH 1
~CTLEN_RD
~CTLEN_WR
U1101
74ACT175
SH 1 BFID
SH 1 BIH
SH 1 BIV
SH 1 WCLK
GND
+5V
CLK
U1001
AM29CPL154
T0
T1
T2
T3
T4
T5
T6
T7
P0/A0
P1/A1
P2/A2
P3/A3
P4/A4
P5/A5
P6
P7
P8
P9
P10
P11
P12
P13
P14
P15
~RESET
CLK
+5V
TVSEL
THVENL
THHSEL
TVVENL
TVHSEL
TSVENL
TSHSEL
SH 3,4
SH 3
SH 3
SH 4
SH 4
SH 4
SH 4
U1102
74AC04
R17
47
U1102
74AC04
U0902
74ACQ244
ENA
ENB
R15
240
1/4W 2%
R16
130
GND
+5V
WCLK1
WCLK0
SH 4
SH 3,4
R13
180
R14
130
R12
180
R11
130
GND
+5V

Grass Valley Group®

SCHEMATIC DIAGRAM
FILTER CONTROL

SIZE D
DRAWING NO. 10-064743-00/-10 A1
SCALE: NONE
SHEET 2 OF 5


SEE SHEET 1 FOR REVISIONS
SH 2 ~LDHLOFFS
SH 1,4 DATA(0:15)
SH 4 SKEW(0:7)
SH 1,2,4 ADDR(1:3)
SH 2 ~LDHCOMP
SH 2,4 TUSEL
SH2 THVENL
SH 2 THHSEL
SH 2,4 HCLK0
U0804
SC1680-00
+5V
+V
IBUSD0
IBUSD15
IBUSA0
IBUSA1
IBUSA2
IBUSCLK
IBUSEN
ABSEN
PE-EN
CLK
VSEL
VENL
HSEL
HENL
-V
VSS
DATA0
DATA31
EXP0
EXP1
EXP2
EXP3
EXP4
OVERFLO1
OVERFLO
SIGN
TESTOUT
GND
U0702
PALC22V10
I0/CLK
R5
10K
U0703
GAL16V8
I/CLK
I/OE
R7
10K
HCZM(0)
HCZM(1)
HCZM(2)
HCZM(3)
HCZM(4)
HCZM(5)
HCZE(0)
HCZE(1)
HCZE(2)
HCZE(3)
AHCZSIGN
NU
U0403
SC7014
SKEW(0)
SKEW(7)
A0
A11
B0
B11
CI
M0
M1
M2
~ENA
BCLK
CLK
F0
F12
CO
A+B
HZSM(0)
HZSM(4)
HZSE(0)
HZSE(3)
HZSOV
HCZSIGN
U0203
SC7014
DATA(0)
DATA(7)
OVFLB
OVFLA
U0601
GAL20V8
I/CLK
I/OE
R9
10K
YHCTRL(0:6)
YHCTRL(0)
YHCTRL(1)
YHCTRL(2)
YHCTRL(3)
YHCTRL(4)
YHCTRL(5)
YHCTRL(6)
SH 1
U0401
GAL20V8
R4
10K
U0501
TMC2011
DI
DO
LO
L1
L2
L3
MC
VCC
CHCTRL(0:6)
CHCTRL(0)
CHCTRL(1)
CHCTRL(2)
CHCTRL(3)
CHCTRL(4)
CHCTRL(5)
CHCTRL(6)
SH 1
8
7
6
5
4
3
2
1
D
C
B
A

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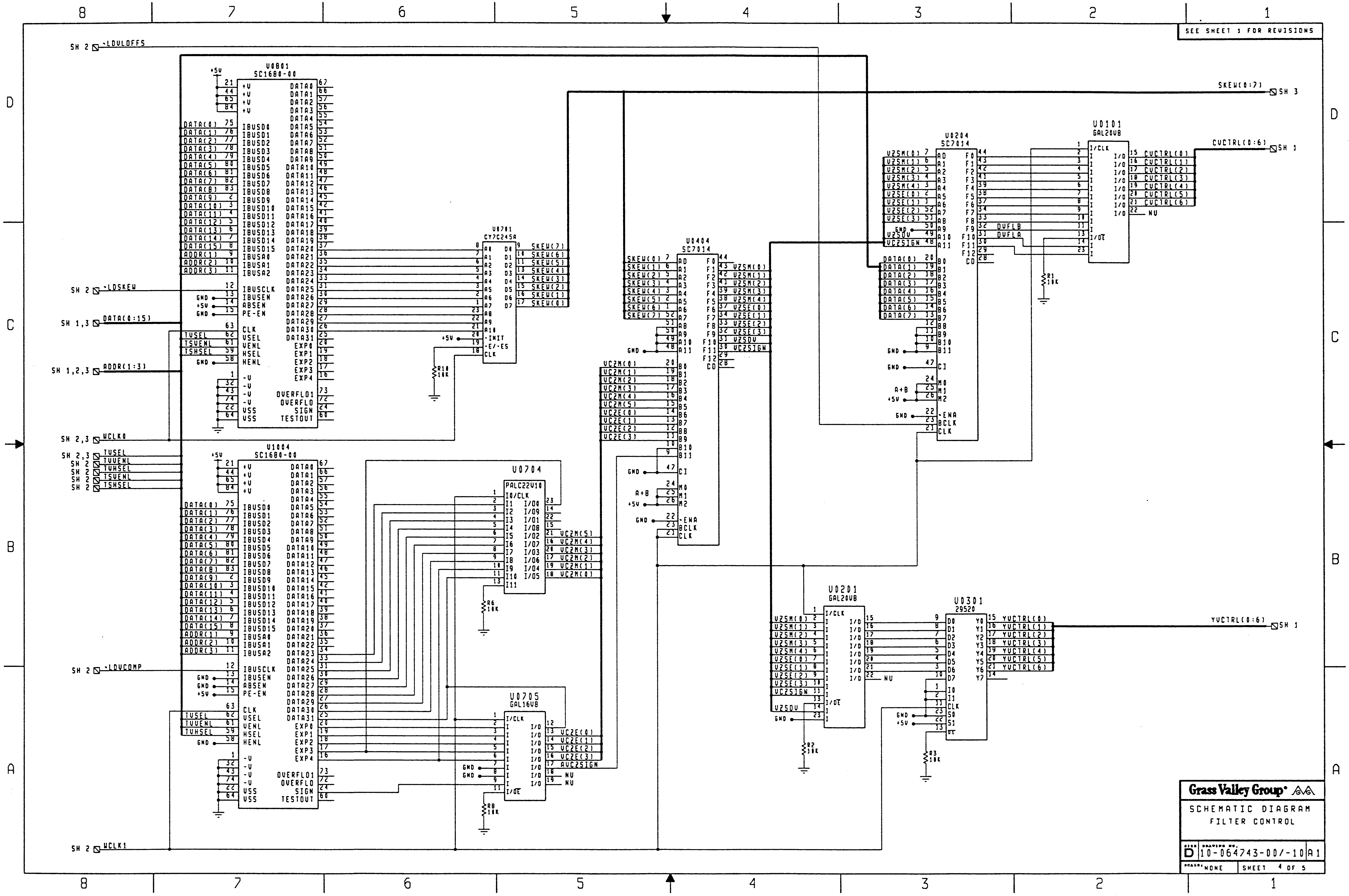
SCHEMATIC DIAGRAM
FILTER CONTROL

SIZE D DRAWING NO. 10-064743-00/-10 A1

SCALE: NONE SHEET 3 OF 5

SEE SHEET 1 FOR REVISIONS


U0801
SC1680-00
U1004
SC1680-00
U0701
CY7C245A
U0704
PALC22V10
U0705
GAL16V8
U0404
SC7014
U0204
SC7014
U0101
GAL20V8
U0201
GAL20V8
U0301
29520
SH 2 -LDVLOFFS
SH 2 -LDSKEW
SH 1,3 DATA(0:15)
SH 1,2,3 ADDR(1:3)
SH 2,3 VCLK0
SH 2,3 TUSEL
SH 2 TVVENL
SH 2 TVHSEL
SH 2 TSVENL
SH 2 TSHSEL
SH 2 -LDVCOMP
SH 2 VCLK1
SKEW(0:7) SH 3
CVCTRL(0:6) SH 1
YVCTRL(0:6) SH 1
SKEW(0)
SKEW(1)
SKEW(2)
SKEW(3)
SKEW(4)
SKEW(5)
SKEW(6)
SKEW(7)
VCZM(0)
VCZM(1)
VCZM(2)
VCZM(3)
VCZM(4)
VCZM(5)
VCZE(0)
VCZE(1)
VCZE(2)
VCZE(3)
AVCZSIGN
VZSM(0)
VZSM(1)
VZSM(2)
VZSM(3)
VZSM(4)
VZSE(0)
VZSE(1)
VZSE(2)
VZSE(3)
VZSOV
VZSIGN
OVFLB
OVFLA
CVCTRL(0)
CVCTRL(1)
CVCTRL(2)
CVCTRL(3)
CVCTRL(4)
CVCTRL(5)
CVCTRL(6)
YVCTRL(0)
YVCTRL(1)
YVCTRL(2)
YVCTRL(3)
YVCTRL(4)
YVCTRL(5)
YVCTRL(6)
R1 10K
R2 10K
R3 10K
R6 10K
R8 10K
R10 10K
+5V
GND
A+B
NU

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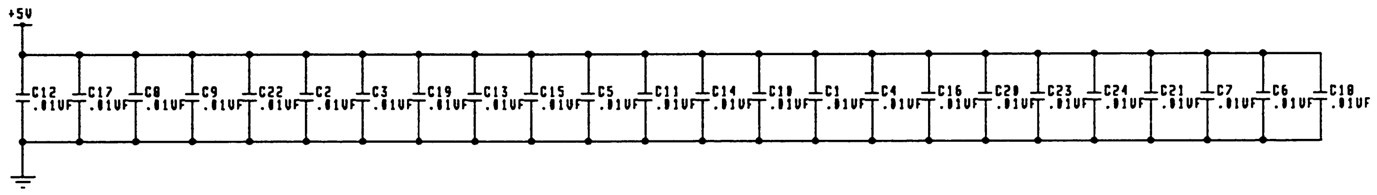
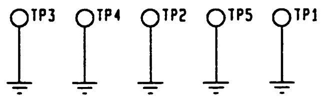
SCHEMATIC DIAGRAM
FILTER CONTROL

SIZE D DRAWING NO. 10-064743-00/-10 A1

SCALE NONE SHEET 4 OF 5

SEE SHEET 1 FOR REVISIONS


+5V
C12 .01UF
C17 .01UF
C8 .01UF
C9 .01UF
C22 .01UF
C2 .01UF
C3 .01UF
C19 .01UF
C13 .01UF
C15 .01UF
C5 .01UF
C11 .01UF
C14 .01UF
C10 .01UF
C1 .01UF
C4 .01UF
C16 .01UF
C20 .01UF
C23 .01UF
C24 .01UF
C21 .01UF
C7 .01UF
C6 .01UF
C18 .01UF


TP3
TP4
TP2
TP5
TP1

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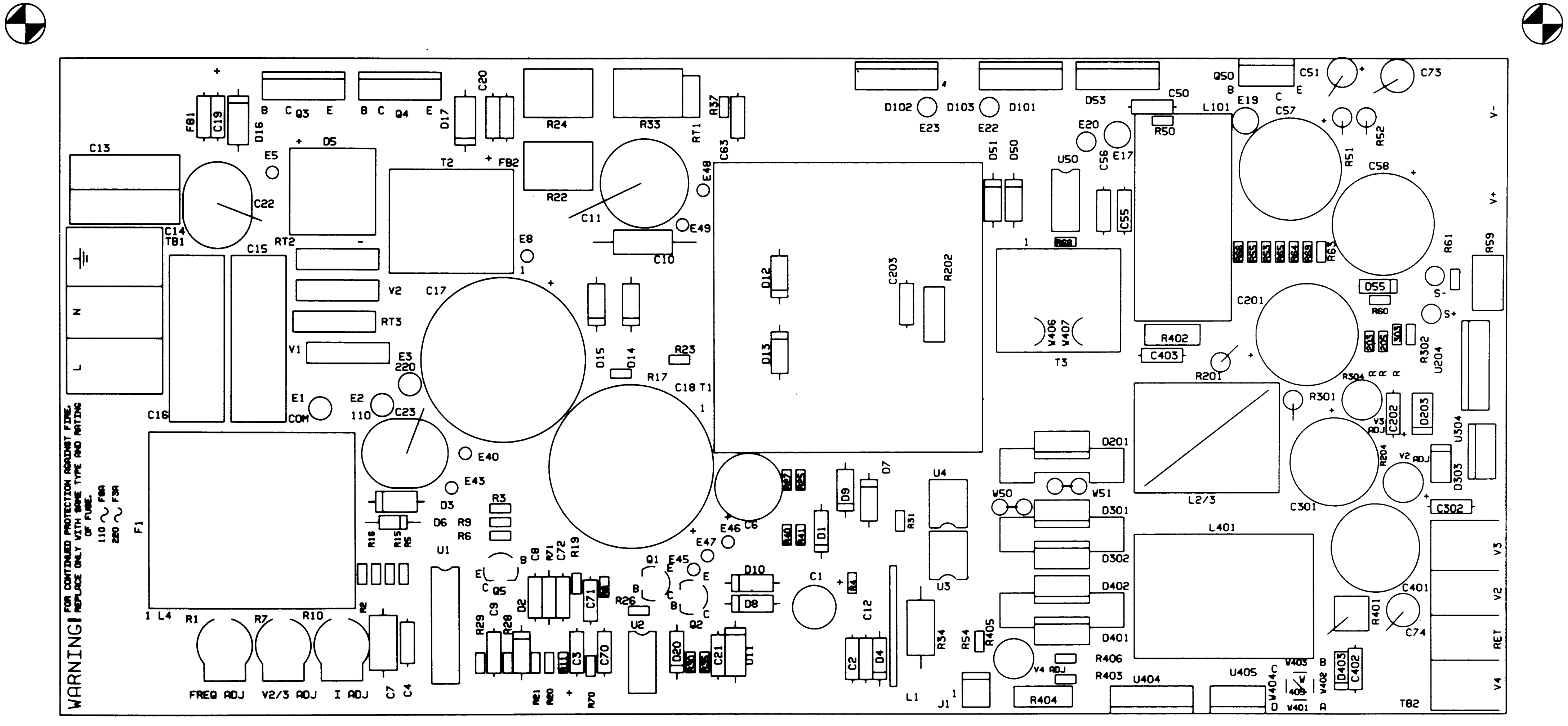
SCHEMATIC DIAGRAM
FILTER CONTROL

SIZE D
DRAWING NO. 10-064743-00/-10 A1
SCALE: NONE
SHEET 5 OF 5

REVISIONS	
AP. BY	0
AP.	


WARNING! FOR CONTINUED PROTECTION AGAINST FIRE, REPLACE ONLY WITH SAME TYPE AND RATING OF FUSE.
110 ~ F8A
220 ~ F3A
F1
TB1
N
L
C13
C14
C15
C16
FB1
C19
D16
Q3
B C E
Q4
D17
C20
R24
R33
RT1
R37
C63
D5
E5
C22
RT2
T2
FB2
R22
C11
E48
E49
C10
E8
V2
C17
RT3
V1
E3
220
E1
COM
E2
110
C23
E40
E43
D3
D6
R9
R6
R3
R18
R15
R5
D15
D14
R23
R17
C18
T1
L4
R1
R7
R10
R2
FREQ ADJ
V2/3 ADJ
I ADJ
C7
C4
U1
Q5
C8
R71
C72
R19
C9
D2
C71
R26
R29
R28
C3
C70
U2
D20
C21
D11
R70
Q1
Q2
E45
E46
E47
C6
D10
D8
C1
D9
D7
D1
D12
D13
C203
R202
C12
C2
D4
R34
R31
U4
U3
L1
J1
R54
R405
D102
D103
D101
E23
E22
D53
D51
D50
U50
C56
E17
E20
C55
C50
R50
Q50
L101
E19
C57
C51
C73
R51
R52
C58
V-
V+
R61
R59
D55
R60
S-
S+
T3
W406
W407
C201
R402
C403
R201
R301
R302
U204
R304
V3 ADJ
C202
D203
U304
R204
V2 ADJ
D303
L2/3
D201
W50
W51
D301
D302
D402
D401
L401
C301
C302
C401
C74
R401
V3
V2
RET
V4
TB2
V4 ADJ
R406
R403
R404
U404
U405
W403
W402
W401
W404
D403
C402

D16769-1 REV 3 SILK SCREEN

SH 2 OF 2

VARIATIONS ON FINISHED DIMENSIONS UNLESS OTHERWISE MARKED		
BASIC DIMENSIONS	FRACTIONAL DIMENSIONS	DECIMAL DIMENSIONS
UP TO 6	± 1/64	± .005
ABOVE 6 TO 24	± 1/32	± .010
ABOVE 24	± 1/16	± .015
ANGULAR DIMENSIONS	± 1/2	
SEE PURCH. SPEC. FOR STOCK TOLERANCES		

P.C. BOARD

V225/V325 SERIES

SCALE: 1:1

D 16769-1

DRAWN BY JL

CHECKED BY

Deltron Inc. NORTH WALES, PA

D 16769-1

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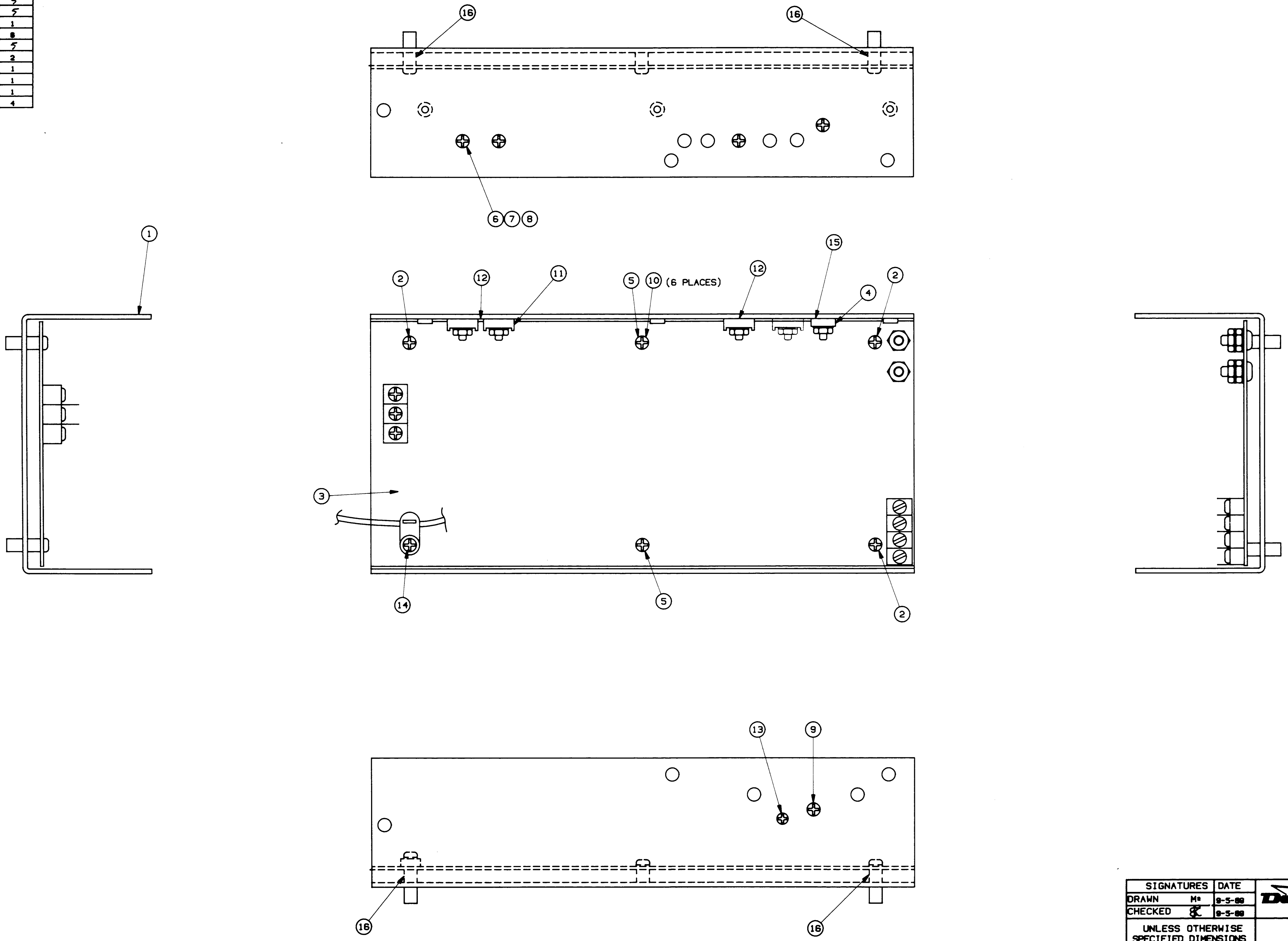
SEQ.#	PART #	DESCRIPTION	QTY.
1	C17448-1	CHASSIS	1
2	3703808	#6 SCREW X 1/2	3
3	P51884-332-04	P.C.B. ASSY.	1
4	3852318	XISTER INSULATOR	1
5	3703207	#6 SCREW X 1/4	2
6	3704157	#6 SCREW X 1/2	5
7	3820033	#6 NUT	5
8	3843441	#6 BELLEVILLE	5
9	3704008	#6 SCREW X 5/16	1
10	3841022	#6 L.W.	6
11	3852328	XISTER INSULATOR	5
12	A18870-1	INSULATOR	2
13	3701813	#4 SCREW X 5/16	1
14	3703703	#6 SCREW X 5/8	1
15	A17207-1	INSULATOR	1
16	3874587	SPACER , NYLON	4



ECN89-370 MP SC 9-5-89	1
REVISIONS	

SIGNATURES		DATE
DRAWN	MP	9-5-89
CHECKED	SC	9-5-89

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
3 PL DECIMALS ±.005
ANGLES ±1/4°
FRACTIONS ±1/32

Deltron inc.
WISSAHICKON AVENUE
NORTH WALES, PA. 19454

P.S. ASSY. DWG.
11294XA

SCALE 1 : 1
SHEET 1 OF 1

DRAWING NO.
D51699-332

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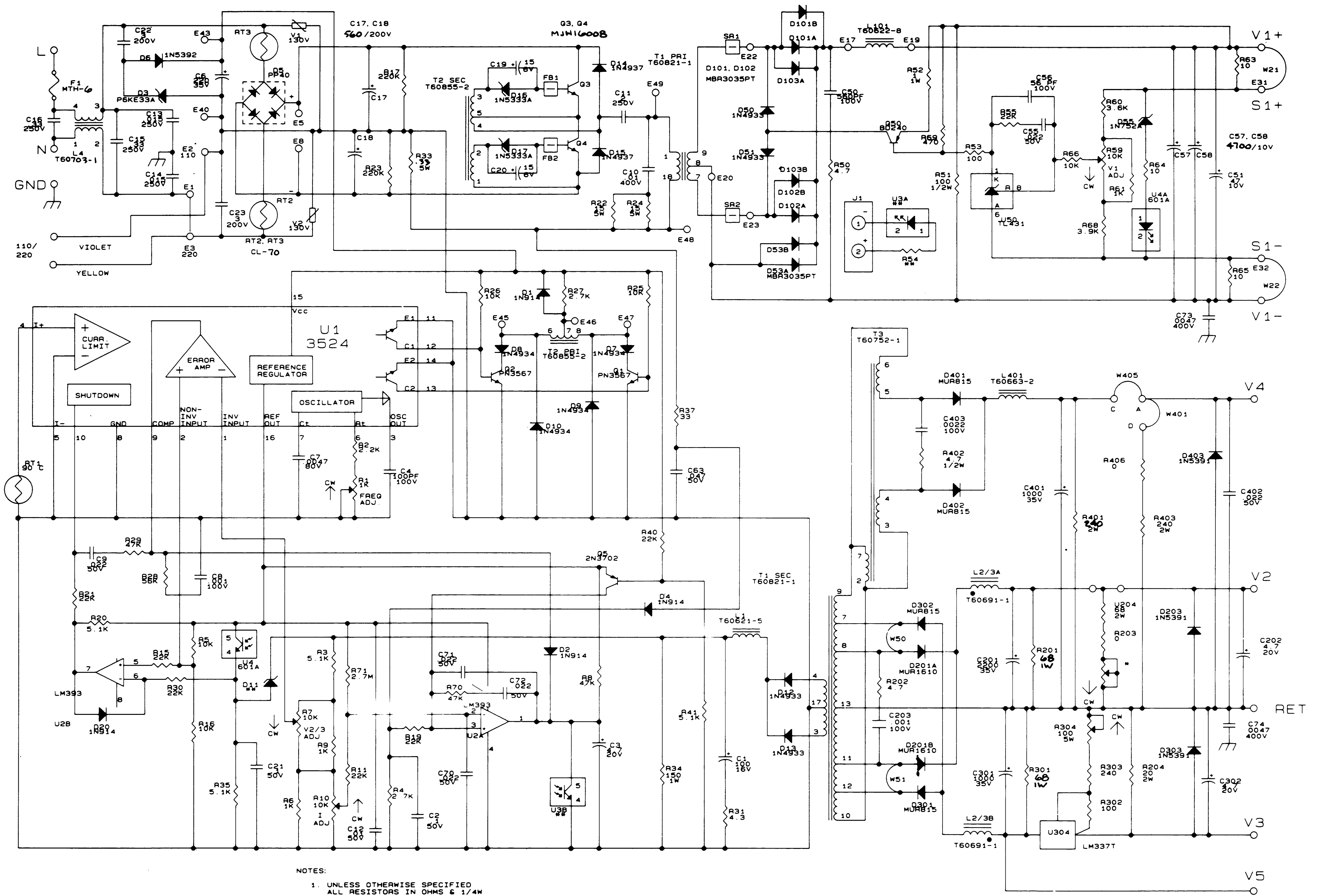
DISK 32


L
N
GND
F1
MTH-6
L4
T60703-1
C16
.15
250V
C22
.1
200V
D6 1N5392
D3 P6KE33A
C13 .015 250V
C15 .33 250V
C14 .015 250V
C6 560 35V
E43
E40
E2 110
E1
E3 220
110/220
VIOLET
YELLOW
RT3
RT2
RT2, RT3 CL-70
V1 130V
V2 130V
D5 PP20
E5
E8
C23 .1 200V
C17, C18 560/200V
C17
C18
R17 220K
R23 220K
R33 .33 5W
T2 SEC T60855-2
C19 15 6V
D16 1N5333A
FB1
FB2
D17 1N5333A
C20 15 6V
Q3, Q4 MJH16008
Q3
Q4
D14 1N4937
D15 1N4937
C11 .1 250V
E49
C10 .01 400V
R22 15 5W
R24 15 5W
T1 PRI T60821-1
E20
E48
SR1
E22
SR2
E23
D101, D102 MBR3035PT
D101B
D101A
D103A
D50 1N4933
D51 1N4933
D103B
D102B
D102A
D53B
D53A MBR3035PT
E17
L101 T60822-8
E19
C50 560PF 100V
R50 4.7
R52 1 1W
Q50 BD240
R69 470
R51 100 1/2W
J1
U3A **
R54 **
R53 100
U50 TL431
R55 22K
C56 56 PF 100V
C55 .022 50V
R66 10K
R59 10K V1 ADJ
R61 1K
CW
R60 3.6K
D55 1N752A
R64 10
U4A 601A
R68 3.9K
C57
C58
C57, C58 4700/10V
C51 47 10V
R63 10
E31
W21
V1+
S1+
S1-
V1-
R65 10
E32
W22
C73 .0047 400V
U1 3524
Vcc
15
CURR. LIMIT
ERROR AMP
REFERENCE REGULATOR
OSCILLATOR
SHUTDOWN
E1 11
C1 12
E2 14
C2 13
I+ 4
I- 5
10
GND 8
COMP 9
NON-INV INPUT 2
INV INPUT 1
REF OUT 16
Ct 7
Rt 6
OSC OUT 3
C7 .0047 80V
R2 2.2K
R1 1K FREQ ADJ
C4 100PF 100V
RT1 90°C
R26 10K
D1 1N914
R27 2.7K
R25 10K
E45
E46
E47
D8 1N4934
T2 PRI T60855-2
D7 1N4934
Q2 PN3567
Q1 PN3567
D9 1N4934
D10 1N4934
R37 33
C63 .047 50V
R40 22K
Q5 2N3702
D4 1N914
T1 SEC T60821-1
L1 T60821-5
C9 .022 50V
R29 47K
R28 56K
C8 .001 100V
R21 22K
R20 5.1K
LM393
U2B
R15 22K
R30 22K
D20 1N914
R5 10K
U4 601A
D11 **
R16 10K
R35 5.1K
C21 .1 50V
R3 5.1K
R7 10K V2/3 ADJ
R9 1K
R6 1K
R10 10K I ADJ
R71 2.7M
R11 22K
C12 .1 50V
C71 .022 50V
R70 47K
C72 .022 50V
LM393 U2A
R19 22K
R4 2.7K
C2 1 50V
C70 .022 50V
D2 1N914
R8 47K
C3 1 20V
U3B **
R34 150 1W
R41 5.1K
C1 100 16V
R31 4.3
D12 1N4933
D13 1N4933
T3 T60752-1
D401 MUR815
L401 T60663-2
W405
W401
C403 .0022 100V
R402 4.7 1/2W
D402 MUR815
C401 1000 35V
R401 240 2W
R406 0
R403 240 2W
D403 1N5391
C402 .022 50V
V4
L2/3A T60691-1
D302 MUR815
W50
D201A MUR1610
R202 4.7
C203 .001 100V
D201B MUR1610
W51
D301 MUR815
C201 2200 35V
R201 68 1W
U204 68 2W
R203 0
D203 1N5391
C202 4.7 20V
V2
RET
C74 .0047 400V
R304 100 5W
R301 68 1W
C301 1000 35V
R303 240
R204 20 2W
R302 100
D303 1N5391
C302 4.7 20V
U304 LM337T
L2/3B T60691-1
V3
V5

NOTES:

1. UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS & 1/4W
ALL CAPACITORS IN MICROFARADS

2. * COMPONENT IS .187 JUMPER BETWEEN
WIPER & CCW (SEE P.C ASSY DWG. D51694-331)

ECN 89-376 9-7-89		1
E.C.N DATE:		0
REVISIONS		

SCHEMATIC DIAGRAM

MODEL OR CUSTOM NUMBER (S) 11294-XA

MODIFIED:

DRAWN BY: M E C 4/6/88

CHECKED BY

DELTRON inc.
NORTH WALES PA

C 17447-1

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SHEET 1 OF 1